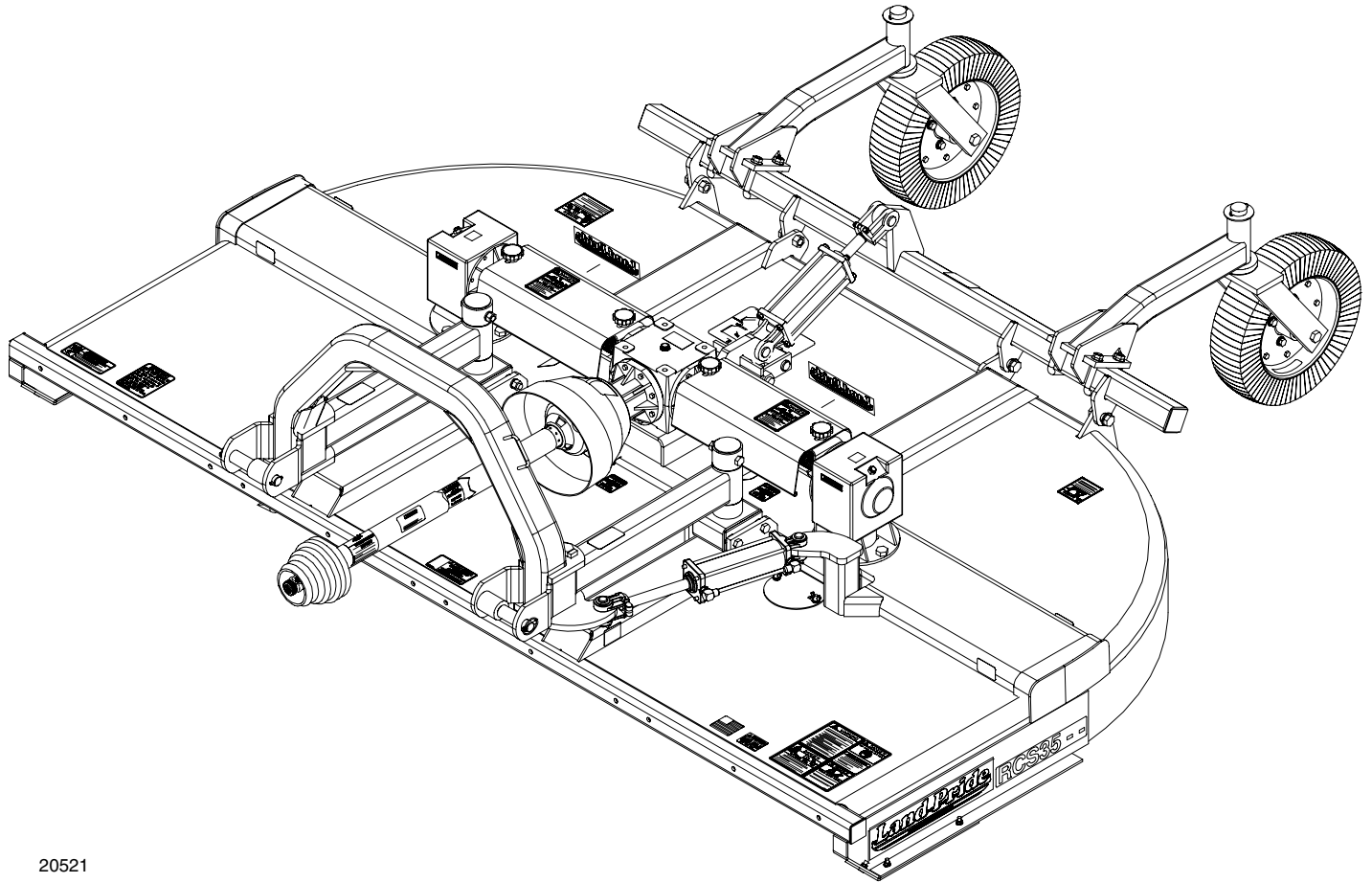


Rotary Cutters

RCS3596, RCSM3596, RCS3510 & RCSM3510 Series



20521

312-708M Operator's Manual



Read the Operator's manual entirely. When you see this symbol, the subsequent instructions and warnings are serious - follow without exception. Your life and the lives of others depend on it!

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Cover photo may show optional equipment not supplied with standard unit.



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Important Safety Information

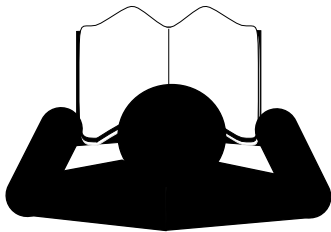
These are common practices that may or may not be applicable to the products described in this manual.

Safety at All Times

Thoroughly read and understand the instructions given in this manual before operation. Refer to the "Safety Label" section, read all instructions noted on them.

Do not allow anyone to operate this equipment who has not fully read and comprehended this manual and who has not been properly trained in the safe operation of the equipment.

- ▲ Operator should be familiar with all functions of the unit.
- ▲ Operate implement from the driver's seat only.
- ▲ Make sure all guards and shields are in place and secured before operating the implement.
- ▲ Do not leave tractor or implement unattended with engine running.
- ▲ Dismounting from a moving tractor could cause serious injury or death.
- ▲ Do not stand between the tractor and implement during hitching.
- ▲ Keep hands, feet, and clothing away from power-driven parts.
- ▲ Wear snug fitting clothing to avoid entanglement with moving parts.
- ▲ Watch out for wires, trees, etc., when raising implement. Make sure all persons are clear of working area.
- ▲ Turning tractor too tight may cause implement to ride up on wheels. This could result in injury or equipment damage.



Look For The Safety Alert Symbol

The SAFETY ALERT SYMBOL indicates there is a potential hazard to personal safety involved and extra safety precaution must be taken. When you see this symbol, be alert and carefully read the message that follows it. In addition to design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of equipment.

Be Aware of Signal Words

A Signal word designates a degree or level of hazard seriousness. The signal words are:

DANGER

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is limited to the most extreme situations, typically for machine components that, for functional purposes, cannot be guarded.

WARNING

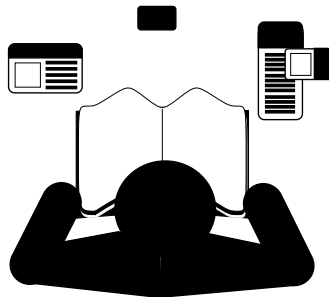
Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

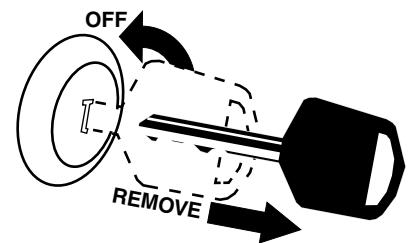
For Your Protection

- ▲ Thoroughly read and understand the "Safety Label" section, read all instructions noted on them.



Shutdown and Storage

- ▲ Lower machine to ground, put tractor in park, turn off engine, and remove the key.
- ▲ Detach and store implements in a area where children normally do not play. Secure implement by using blocks and supports.

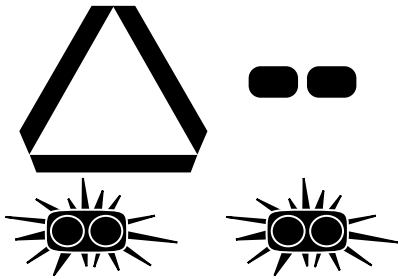


Important Safety Information

These are common practices that may or may not be applicable to the products described in this manual.

Use Safety Lights and Devices

- ▲ Slow moving tractors, self-propelled equipment, and towed implements can create a hazard when driven on public roads. They are difficult to see, especially at night.
- ▲ Flashing warning lights and turn signals are recommended whenever driving on public roads.

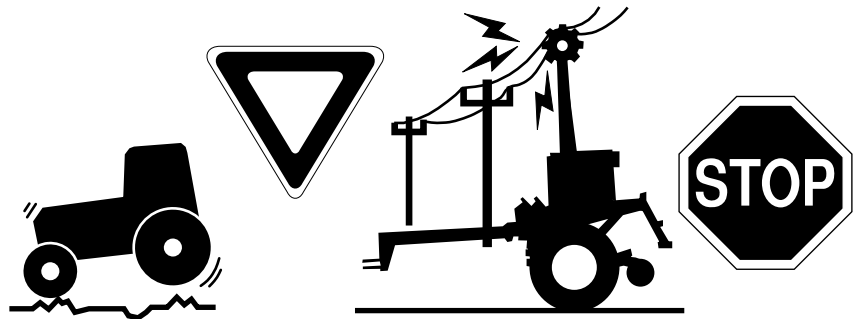


Transport Machinery Safely

- ▲ Comply with state and local laws.
- ▲ Maximum transport speed for implement is 20 mph. DO NOT EXCEED. Never travel at a speed which does not allow adequate control of steering and stopping. Some rough terrains require a slower speed.
- ▲ Sudden breaking can cause a towed load to swerve and upset.

Reduce speed if towed load is not equipped with breaks.

- ▲ Use the following maximum speed - tow load weight ratios as a guideline:
- ▲ **20 mph** when weight is less than or equal to the weight of tractor.
- ▲ **10 mph** when weight is double the weight of tractor.
- ▲ **IMPORTANT:** Do not tow a load that is more than double the weight of tractor.



Use A Safety Chain

- ▲ A safety chain will help control drawn machinery should it separate from the tractor drawbar.
- ▲ Use a chain with the strength rating equal to or greater than the gross weight of the towed machinery.
- ▲ Attach the chain to the tractor drawbar support or other specified anchor location. Allow only enough slack in the chain to permit turning.
- ▲ Do not use safety chain for towing.



Practice Safe Maintenance

- ▲ Understand procedure before doing work. Use proper tools and equipment, refer to Operator's Manual for additional information.
- ▲ Work in a clean dry area.
- ▲ Lower the implement to the ground, put tractor in park, turn off engine, and remove key before performing maintenance.

- ▲ Allow implement to cool completely.
- ▲ Do not grease or oil implement while it is in operation.
- ▲ Inspect all parts. Make sure parts are in good condition & installed properly.
- ▲ Remove build-up of grease, oil or debris.
- ▲ Remove all tools and unused parts from implement before operation.

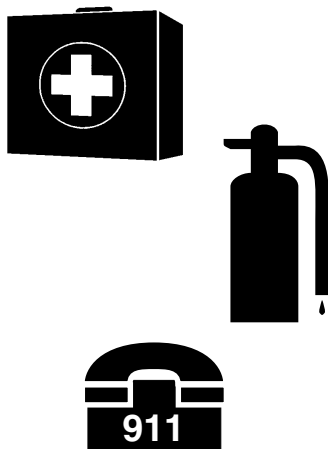


Important Safety Information

These are common practices that may or may not be applicable to the products described in this manual.

Prepare for Emergencies

- ▲ Be prepared if a fire starts.
- ▲ Keep a first aid kit and fire extinguisher handy.
- ▲ Keep emergency numbers for doctor, ambulance, hospital and fire department near phone.



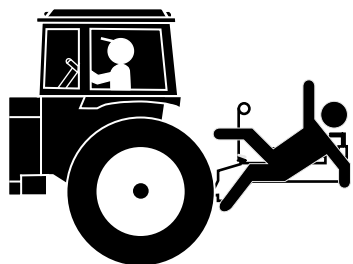
Wear Protective Equipment

- ▲ Protective clothing and equipment should be worn.
- ▲ Wear clothing and equipment appropriate for the job. Avoid loose fitting clothing.
- ▲ Prolonged exposure to loud noise can cause hearing impairment or hearing loss. Wear suitable hearing protection such as earmuffs or earplugs.
- ▲ Operating equipment safely requires the full attention of the operator. Avoid wearing radio headphones while operating machinery.



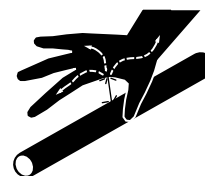
Keep Riders Off Machinery

- ▲ Riders obstruct the operator's view, they could be struck by foreign objects or thrown from the machine.
- ▲ Never allow children to operate equipment.



Avoid High Pressure Fluids Hazard

- ▲ Escaping fluid under pressure can penetrate the skin causing serious injury.
- ▲ Avoid the hazard by relieving pressure before disconnecting hydraulic lines.
- ▲ Use a piece of paper or cardboard, NOT BODY PARTS, to check for suspected leaks.
- ▲ Wear protective gloves and safety glasses or goggles when working with hydraulic systems.
- ▲ If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result.



Important Safety Information

Safety Labels

Your Rotary Cutter comes equipped with all safety labels in place. They were designed to help you safely operate your implement. Read and follow their directions.

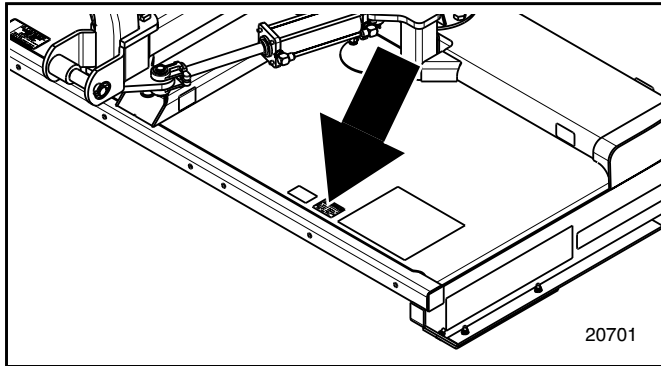
1. Keep all safety labels clean and legible.
2. Replace all damaged or missing labels. To order new labels go to your nearest Land Pride dealer or visit our dealer locator at landpride.com.
3. Some new equipment installed during repair requires safety labels to be affixed to the replaced component as

specified by Land Pride. When ordering new components make sure the correct safety labels are included in the request.

4. Refer to this section for proper label placement.

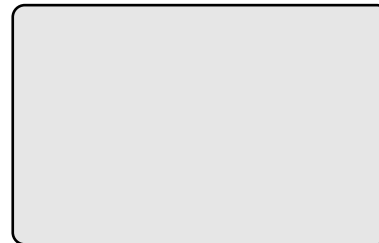
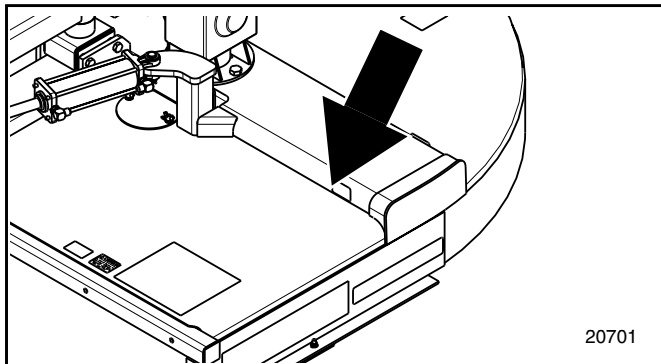
To install new labels:

- a. Clean the area the label is to be placed.
- b. Spray soapy water on the surface where the label is to be placed.
- c. Peel backing from label. Press firmly onto the surface.
- d. Squeeze out air bubbles with the edge of a credit card.

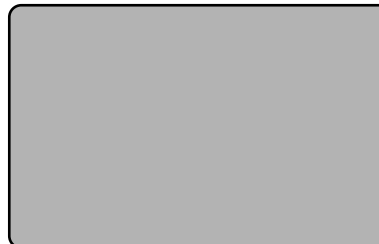
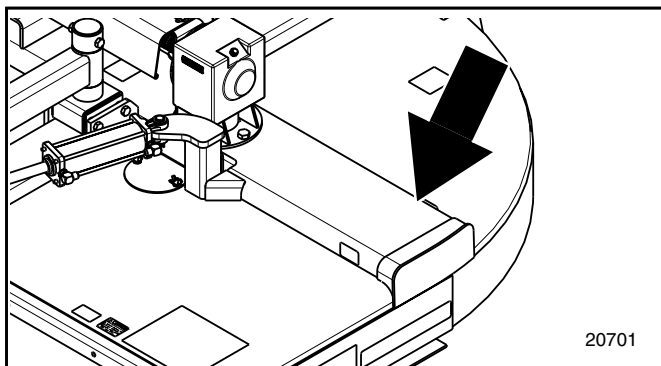


818-130C (Shown)
Caution 540 RPM

818-240C
Caution 1000 RPM

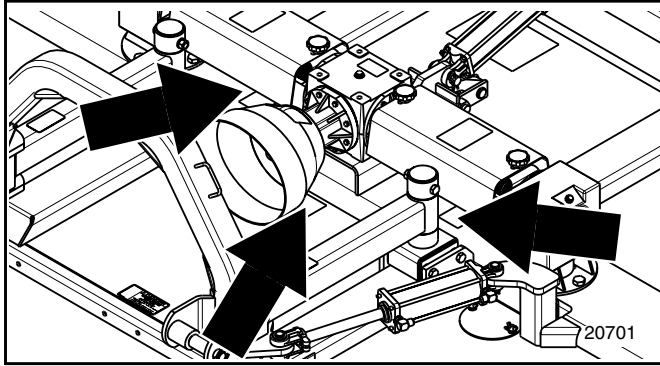


818-229C
Amber Reflector

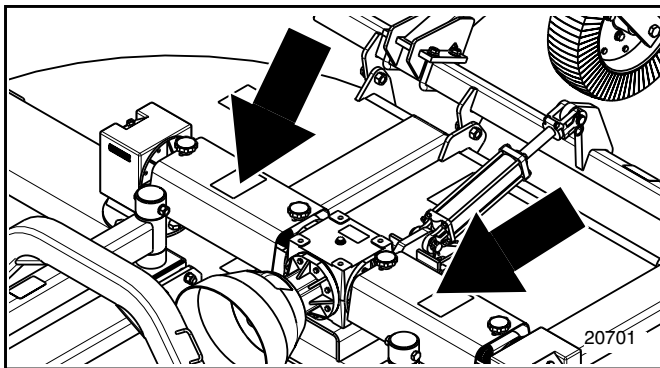


818-230C
Red Reflector

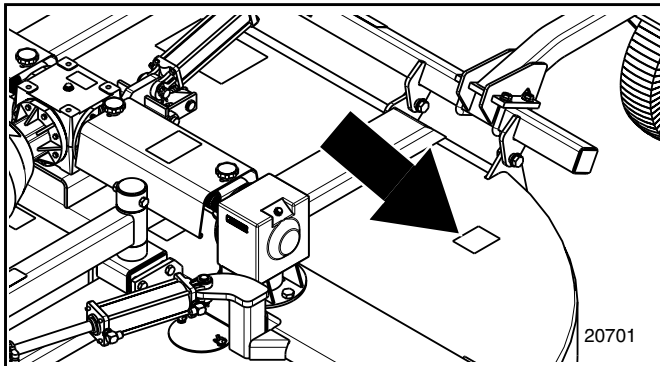
Important Safety Information



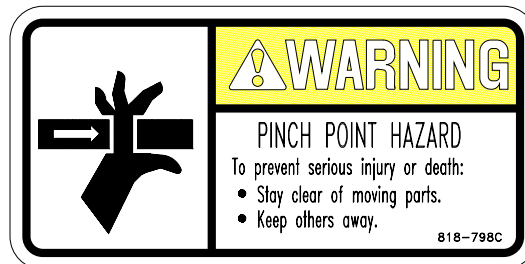
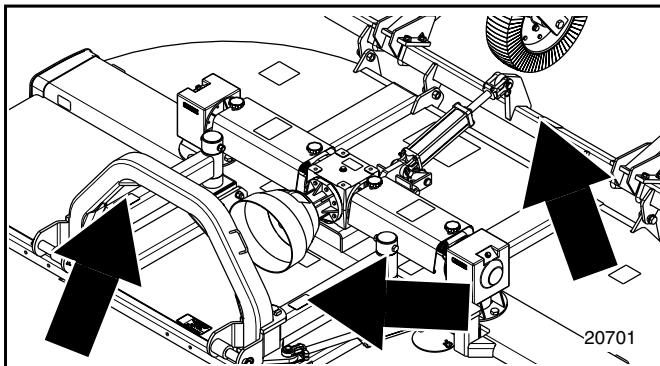
818-543C
Danger Guard Missing



818-552C
Danger PTO Driveline

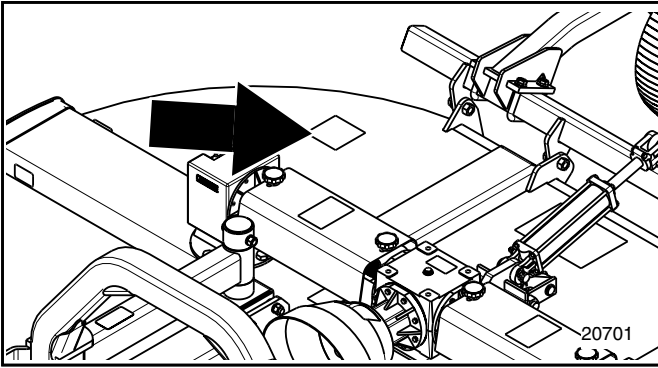


818-556C
Danger Thrown Object



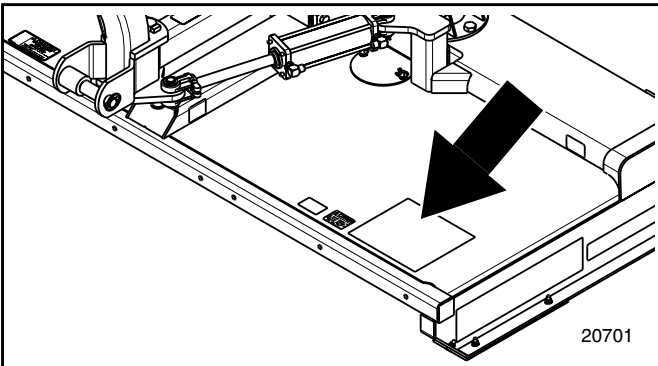
818-798C
Warning Pinch Point

Important Safety Information



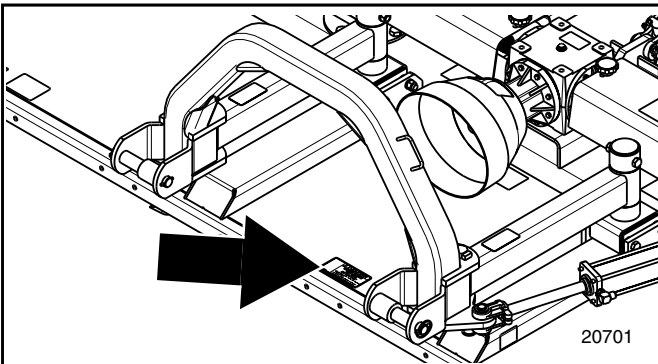
⚠ DANGER	
ROTATING BLADES – KEEP AWAY	
To prevent serious injury or death when the engine is running and the blades are rotating	
<ul style="list-style-type: none"> Never allow riders, especially children, on tractor or mower. Do not operate with bystanders in mowing area. Do not operate with deflectors/guards removed. Do not place hands or feet under deck. 	

818-564C
Chain Guard



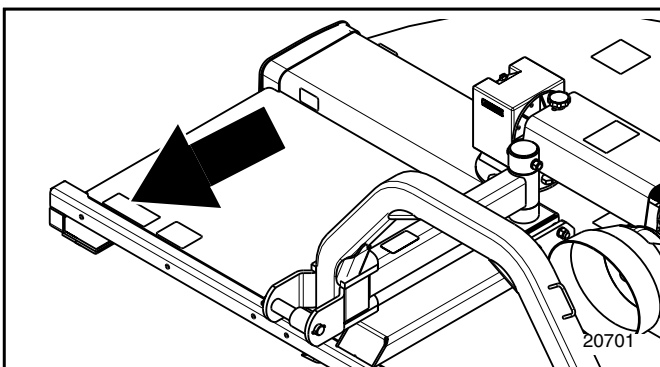
<p>⚠ WARNING</p> <p>To prevent serious injury or death:</p> <ul style="list-style-type: none"> Read and understand Operator's Manual before using. Review annually. Do not operate riders on the tractor or mower. Never carry children on tractor seat. Do not allow children to operate mowers. Operate only with guards installed and in good condition. Keep away from moving parts. Operate only with tractor equipped with ROPS and seatbelts. Before mowing, clear debris from mowing area. Do not operate in the raised position. Stop engine, set brake and wait for all moving parts to stop before dismounting. Support mower securely before working beneath unit. Transport with cover, reflectors, spot and warning lights as required by Federal, state, and local laws. <p><small>If no tie ropes, use eye-bolts to secure cut to tie parts that tie tractors (as needed or required).</small></p>	<p>⚠ DANGER</p> <p>KEEP HANDS AND FEET AWAY</p> <p style="text-align: center;"></p> <p>NOTES TO OWNER</p> <p><small>An OPERATOR'S MANUAL was attached to the top of the bag that is part of the blade. If it was not attached at the time of purchase, please contact your selling dealer at once.</small></p> <ol style="list-style-type: none"> Read and understand Manual BEFORE working on tractors. Pay attention to the safety message.
<p>⚠ DANGER</p> <p>ROTATING BLADES – KEEP AWAY</p> <p>To prevent serious injury or death when the engine is running and the blades are rotating:</p> <ul style="list-style-type: none"> Never allow riders, especially children, on tractor or mower. Do not operate with bystanders in mowing area. Do not operate with deflectors/guards removed. Do not place hands or feet under deck. 	<p>⚠ DANGER</p> <p>THROWN OBJECT HAZARD</p> <p>To prevent serious injury or death:</p> <ul style="list-style-type: none"> Do not operate unless all guards are installed and in good condition. Stop blade rotation if by standards come within several hundred feet.

818-830C
Safety Combo



⚠ DANGER	
	ROTATING DRIVELINE
CONTACT WILL CAUSE INJURY OR DEATH	
KEEP AWAY!	
DO NOT OPERATE WITHOUT –	
<ul style="list-style-type: none"> All driveline guards, tractor and equipment shields in place Drivelines securely attached at both ends Driveline guards that turn freely on driveline 	
<small>818-142C Rev. D</small>	

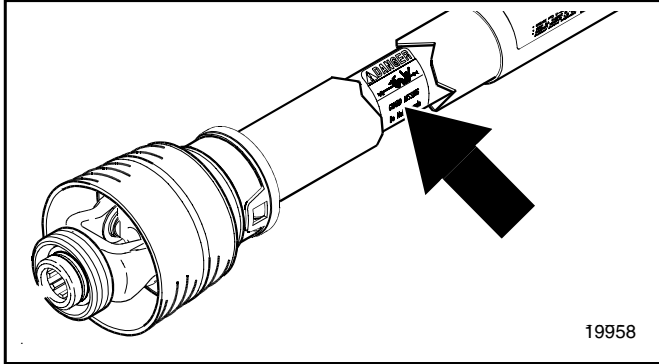
818-142C
Rotating Driveline



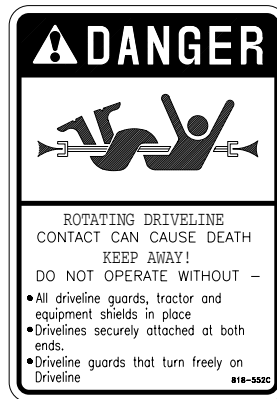
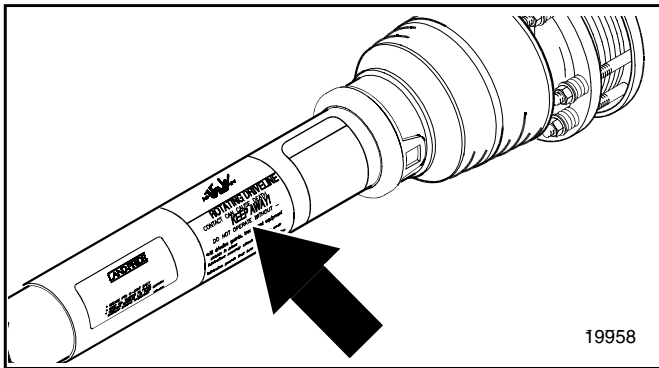
⚠ WARNING	
	HIGH PRESSURE FLUID HAZARD
To prevent serious injury or death:	
<ul style="list-style-type: none"> Relieve pressure on system before repairing or adjusting or disconnecting. Wear proper hand and eye protection when searching for leaks. Use wood or cardboard instead of hands. Keep all components in good repair. 	
<small>838-094C</small>	

838-094C
Warning: High Pressure

Important Safety Information



818-540C
Danger Guard Missing



818-552C
Danger PTO Driveline

Introduction

Land Pride welcomes you to the growing family of new product owners.

This Cutter has been designed with care and built by skilled workers using quality materials. Proper assembly, maintenance, and safe operating practices will help you get years of satisfactory use from the machine.

Application

The Land Pride RCS(M)3596 and RCS(M)3510 Series Side Shift Rotary Cutters are designed and built to clear grass, weeds, and light brush up to two inches in diameter from areas under orchard and grove trees, beneath over-hanging hedge rows, or under fence lines and guard railings. Both units have 14" side shift capability to either side of the tractor with rear mounted 360 degree rotating tailwheels. These cutters are also well suited for operation on gentle slopes and mildly contoured approaches immediately adjacent to ponds, lakes, streams, drainage ditches, and roadways. The eight or ten foot cutting width and 2" to 12" cutting height make them well suited for mowing pastures, set aside acres, and row crop fields.

The RCS3596 is adapted for Category 1 or 2 semi-hitch mounting and 50 to 120 horsepower tractors. The Model RCS3510 is approved for Category 2 or 3 semi-hitch attachment and 60-120 horsepower tractors. Due to the offset nature of the hitch, this cutter utilizes a "semi-mount" hitch configuration. The top link will not be used and the tailwheels will always be in contact with the ground. Both models are available with either 540 rpm or 1000 rpm PTO capability and offer standard driveline clutch protection. A stump jumper is standard equipment and safety guards are available. See "Features and Benefits", "Section 5" for additional information.

Using This Manual

- This Operator's Manual is designed to help familiarize you with safety, assembly, operation, adjustments, troubleshooting, and maintenance. Read this manual and follow the recommendations to help ensure safe and efficient operation.
- The information contained within this manual was current at the time of printing. Some parts may change slightly to assure you of the best performance.
- To order a new Operator's or Parts Manual contact your authorized dealer. Manuals can also be downloaded, free-of-charge from our website at www.landpride.com or printed from the Land Pride Service & Support Center by your dealer.

Terminology

"Right" or "Left" as used in this manual is determined by facing the direction the machine will operate while in use unless otherwise stated.

Definitions

NOTE: A special point of information that the operator must be aware of before continuing.

IMPORTANT: A special point of information related to its preceding topic. Land Pride's intention is that this information should be read and noted before continuing.

Owner Assistance

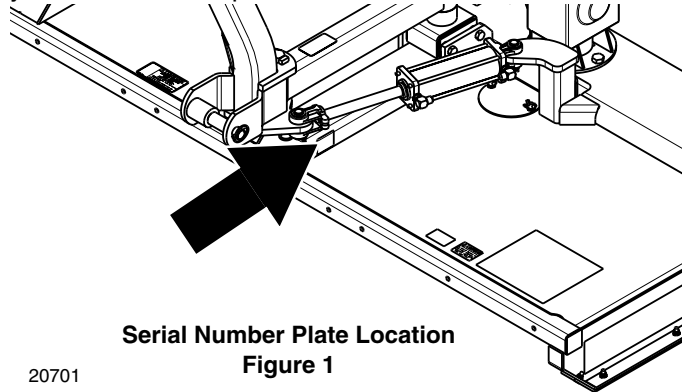
The Warranty Registration card should be filled out by the dealer at the time of purchase. This information is necessary to provide you with quality customer service.

If customer service or repair parts are required contact a Land Pride dealer. A dealer has trained personnel, repair parts and equipment needed to service the Cutter.

The parts on your Cutter have been specially designed and should only be replaced with genuine Land Pride parts. Therefore, should your Cutter require replacement parts go to your Land Pride Dealer.

Serial Number Plate

For prompt service always use the serial number and model number when ordering parts from your Land Pride dealer. Be sure to include your serial and model numbers in correspondence also. Refer to Figure 1 for the location of your serial number plate.



Serial Number Plate Location
Figure 1

20701

Further Assistance

Your dealer wants you to be satisfied with your new Cutter. If for any reason you do not understand any part of this manual or are not satisfied with the service received, the following actions are suggested:

1. Discuss the matter with your dealership service manager making sure he is aware of any problems you may have and that he has had the opportunity to assist you.
2. If you are still not satisfied, seek out the owner or general manager of the dealership, explain the problem and request assistance.
3. For further assistance write to:

Land Pride Service Department
1525 East North Street
P.O. Box 5060
Salina, Ks. 67402-5060

E-mail address
lp servicedept@landpride.com



Section 1: Assembly and Set-Up

Tractor Requirements

Weight & Horsepower

Tractor horsepower and weight must be capable of controlling the cutter under all operating conditions. Tractors outside the horsepower range must not be used.

- RCS3596 cutters & RCSM3596
Semi-Mount 30-120 HP
- RCS3510 & RCSM3510 cutters
Semi-Mount 50-120 HP

NOTE: Ballast may need to be added to your tractor to maintain steering control. Refer to your tractor’s operator manual to determine if one needs additional ballast.

PTO Type & Speed

Tractor’s rear power take-off (PTO) speed and spline type must be capable of matching the cutter’s PTO type and speed.

- RCS3596 and RCS3510 cutters
540 RPM 1 3/8”-6 spline rear power take-off
- RCSM3596 and RCSM3510 cutters
1000 RPM 1 3/8”-21 spline rear power take-off

3-Point Hitch

The lower 3-Point arms of the 3-Point hitch must be stabilized to prevent side-to-side movement. Most tractors have sway blocks or adjustable chains for this purpose. Category of hitch is dependent upon the series of cutter being used.

- RCS3596 & RCSM3596 (Category I or II hitch)
- RCS35510 & RCSM3510 (Category II or III hitch)

Dealer Preparations

Read and understand the operator’s manual for your cutter. An understanding of how it works will aid in the assembly and setup of your cutter.

This Rotary Cutter has been partially assembled at the factory. However, some assembly will be necessary to attach the hitch, driveline and guards to the cutter.

It is best to go through the **Pre-Assembly Checklist** before assembling the cutter. Speed up your assembly task and make the job safer by having all the needed parts and equipment readily at hand.

Pre-Assembly Checklist

Check	Reference
<input type="checkbox"/> Fasteners and pins that were shipped with the cutter. NOTE: All hardware from the factory has been installed in the location where it will be used. If a part or fastener is temporarily removed for assembly reasons, remember where it goes. Keep the parts separated.	Operator’s Manual
<input type="checkbox"/> Be sure the parts get used in the correct location. By double checking while you assemble, you will lessen the chance of using a bolt incorrectly that may be needed later.	Operator’s Manual
<input type="checkbox"/> All grease fittings are in place and lubricated.	Section 4 Page 21
<input type="checkbox"/> Safety labels are correctly located and legible. Replace if damaged.	Safety Information Page 1
<input type="checkbox"/> Red and amber reflectors are correctly located and visible when the cutter is in the transport position.	Safety Information Page 1
<input type="checkbox"/> Have a minimum of 2 people at hand while assembling the cutter.	Operator’s Manual
<input type="checkbox"/> Have a fork lift or loader along with chains and safety stands that are sized for the job ready for the assembly task.	Operator’s Manual

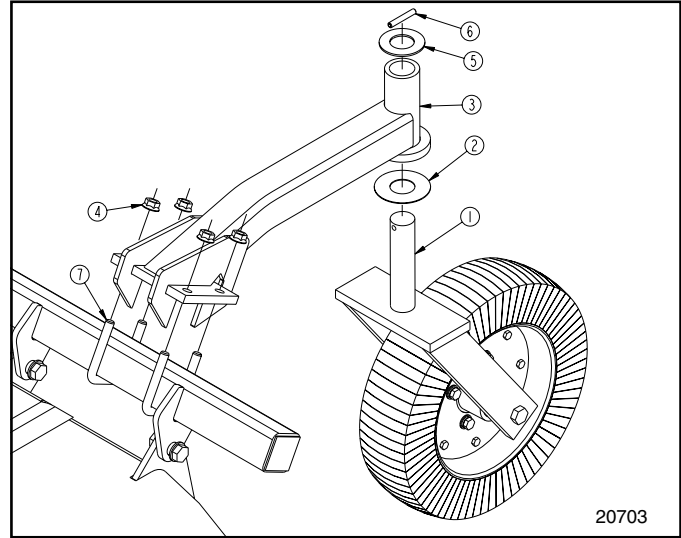
Section 1: Assembly and Set-Up

Hitch Assembly

NOTE: Do not tighten hardware until assembly is complete. Refer to “**Torque Values Chart for Common Bolt Sizes**” on page 28.

Refer to Refer to Figure 1-1:

1. Install the offset arms (#2) to the cutter making sure the pinch decals on the arms are to the top and front of the cutter and assemble the mounting caps (#5). Secure with bolts (#7) lockwashers (#11) and nuts (#9).
2. Assemble the hitch (#1) to offset arms (#2) inserting the tubes (#6) in the offset arms and secure with bolts (#8) lockwashers (#12) and nuts (#10).
3. Assemble rod end of cylinder (#3) to hitch lug with pin (#13). Cylinder's hydraulic elbows should be facing away from offset arms.
4. Assemble the lift cylinder (#3) or ratchet jack (#14) to lift lug on the deck and the rear axle and secure with pins as shown.



Tailwheel Assembly
Figure 1-2

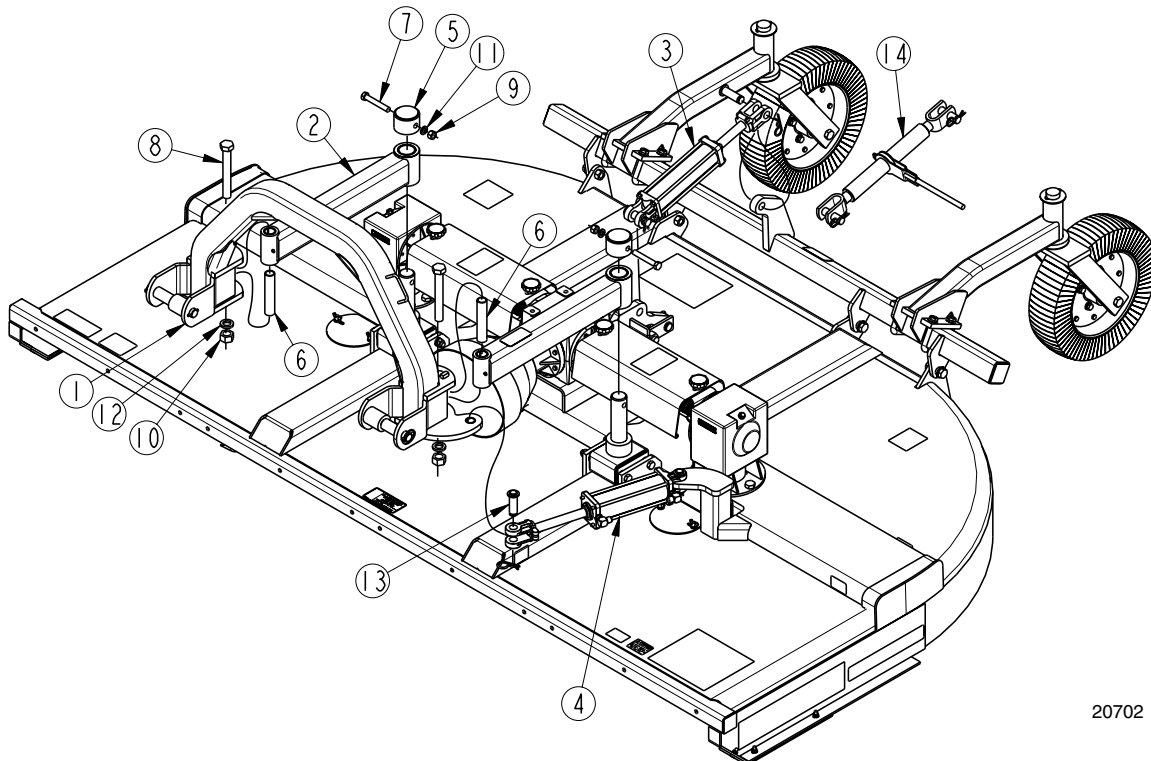
Tailwheel Assembly

Refer to Refer to Figure 1-2:

1. Assemble tailwheel arms (#3) to rear axle with u-bolts (#7) and flange nuts (#4).
2. Install tailwheel washer (#2) (larger diameter washer) on the tire yoke (#1) and insert yoke into tailwheel arms.
3. Place washer (#5) on yoke on top side of tailwheel arms (#3) and secure with roll pin (#6).

Driveline Installation

1. Attach the slip-clutch end of the driveline to the gearbox input shaft securely. Make certain that the slip-clutch is fully onto the input shaft splines. Tighten the conical dog pin on back side of slip-clutch to 45-50 ft-lb torque.
2. Secure the chain on the driveline to the driveline cone to restrict outer shield from rotating.



Hitch Assembly
Figure 1-1

Section 1: Assembly and Set-Up

Safety Guards (Optional)



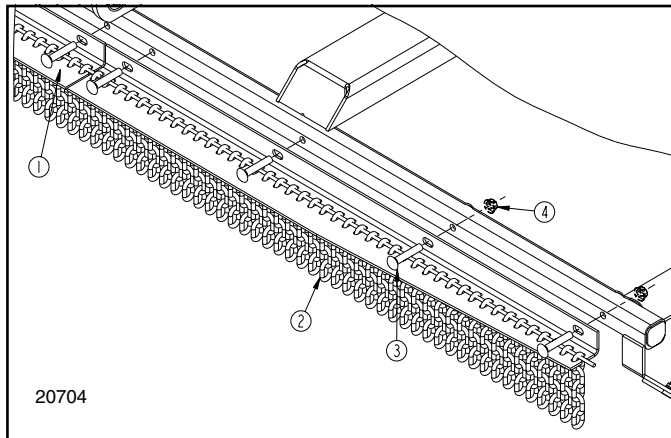
Rotary Cutters have the ability to discharge objects at high speeds; therefore, the use of front and rear safety guards is strongly recommended when cutting along highways or in an area where people may be present.

NOTE: Do not tighten hardware until assemblies are complete. Refer to “Torque Values Chart for Common Bolt Sizes” on page 28.

Front Chain Guards

Refer to Figure 1-3

Install the left hand (#2) and right hand (#1) front chain guards with carriage bolts (#3), and flange nuts (#4). The narrow end of the chain guards goes to the outside. **RCS3596 is shown.** The RCS3510 has a center chain guard that will assemble between the left hand and right hand chain guards.

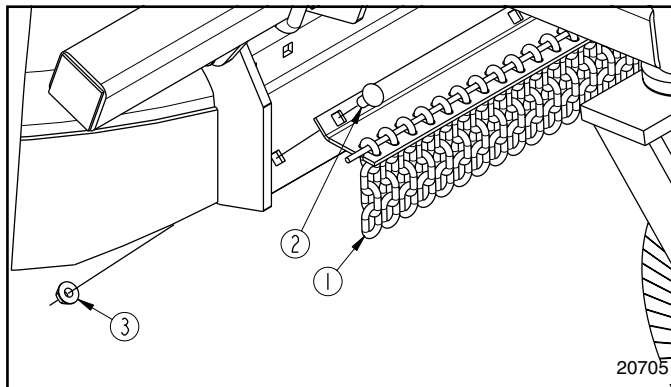


Front Chain Guard
Figure 1-3

Rear Chain Guards

Refer to Figure 1-4

Install the rear chain guard (#1) with 1/2" -13 x 1 1/2" long carriage bolts (#2), and 1/2" flange nuts (#3).

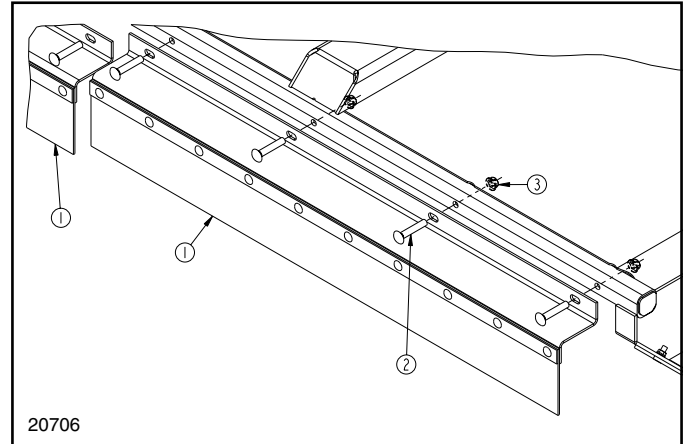


Rear Chain Guard
Figure 1-4

Front Rubber Guards

Refer to Figure 1-5:

Install each guard of the front rubber guards (#1) with the carriage bolts (#2) and flange nuts (#3). **RCS3596 is shown.** The RCS3510 has a center rubber guard that will assemble between the left hand and right hand rubber guards.

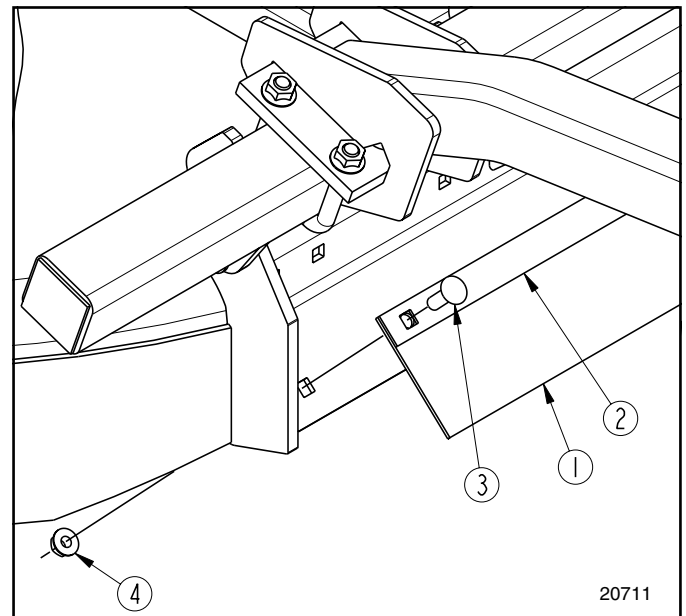


Front Rubber Guards (RCS3596 Shown)
Figure 1-5

Rear Rubber Guards

Refer to Figure 1-6

Install the rear rubber guard (#1) and rear guard strap (#2) with the carriage bolts (#3) and flange nuts (#4).



Rear Rubber Guard
Figure 1-6

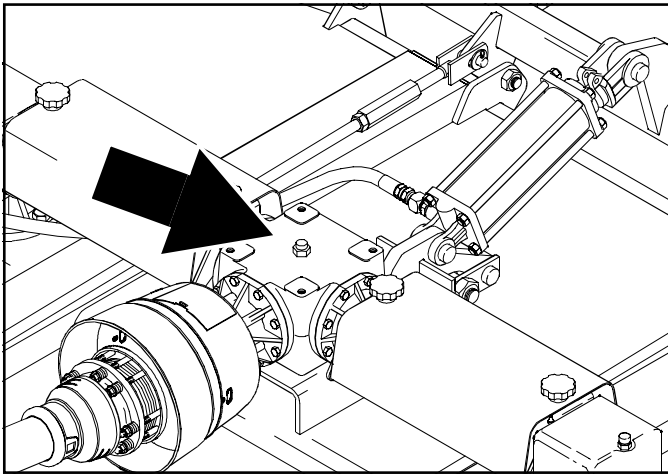
Section 1: Assembly and Set-Up

Vent Plug Installation

Refer to Figure 1-7:

IMPORTANT: Cutters are shipped with a red plug in the splitter gear box to prevent loss of oil during shipping and handling. This plug must be replaced with a vent plug before operating the cutter.

A vent plug for the splitter gearbox is included in a bag with the manual. See your nearest Land Pride Dealer if vent plug is missing. Remove temporary red plug from top of splitter gearbox and replace with supplied vent plug.



Vent Plug Location
Figure 1-7

Tractor Hook-Up

DANGER!

Crushing Hazard between tractor and implement. Do not allow anyone to stand between the tractor and implement while backing-up to an implement. Never operate the hydraulic 3-point lift controls while someone is directly behind the tractor.

DANGER!

Engage parking brake, shut off tractor and remove key before dismantling from the tractor.

1. Locate the cutter on a flat level surface.
2. Determine the hitch category of the tractor that will be used:
 - a. **Category I** tractors will have a lower hitch link hole diameter of 7/8". The top link hole diameter (cutter end) will be 3/4".
 - b. **Category II** tractors will have a lower hitch link hole diameter of 1 1/8". The top link hole diameter (cutter end) will be 1".
 - c. **Category III** tractors will have a lower hitch link hole diameter of 1 7/16". The top link hole diameter (cutter end) will be 1 5/16".

3. Remove lower linch pins and hitch pins from the deck.
4. Slowly back tractor up to the cutter while using the tractor's 3-point hydraulic control to adjust the lower link arms up or down to match the tractor's lower arm pin holes to the cutter hitch pin holes. The lower lift arms of a Category 2 tractor will be positioned to the outside of the cutters lower hitch lugs on RCS35596 & RSCM35596 cutters.
5. Re-insert hitch pins and secure with linch pins.

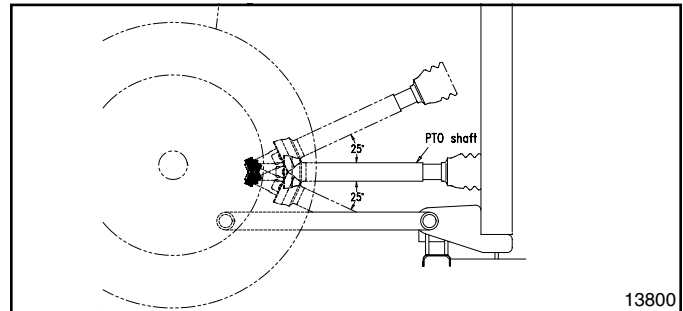
PTO Hook-up

If the cutter is to be used on more than one tractor, an additional PTO shaft may be required - especially if a quick hitch is used.

CAUTION!

Do not use a PTO adaptor with a quick hitch. A PTO adapter will increase the strain on the tractor's PTO shaft and can damage the PTO shaft and mower driveline.

IMPORTANT: Avoid premature driveline breakdown. A driveline that is operating **must not exceed** an angle of 25 degrees up or down while operating the 3-point lift. See Figure 1-8 below.



Maximum PTO driveline Movement During Operation
Figure 1-8

IMPORTANT: Do not attempt to operate a 540 RPM driveline at 1,000 RPM or a 1,000 RPM driveline at 540 RPM. Many tractors provide both 540 and 1,000 RPM PTO speeds. Check your tractor's manual to determine its capabilities.

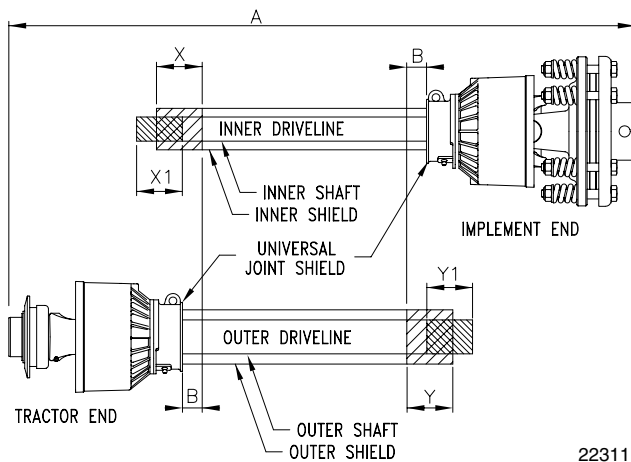
IMPORTANT: The PTO driveline may be too long for some tractors. If the cutter is used on more than one tractor, an additional PTO driveline may be required.

Refer to Figure 1-9 on page 13:

1. Start tractor and slowly engage tractor's hydraulic 3-point to lift the lower arms until the cutter's driveline shaft is approximately level with tractor's PTO shaft.
2. Slide outer yoke end of driveline over the tractor's PTO shaft and secure with the locking collar. Skip to step 4 if driveline fits between tractor and cutter.

Section 1: Assembly and Set-Up

3. The driveline will require shortening if it is too long to fit between the tractor and cutter. Shorten driveline as follows:
 - a. Raise 3-point lower arms until cutter and tractor PTO shafts are approximately level with each other. Securely block cutter frame in this position. Set tractor in park, shut tractor engine off, set park brake and remove switch key.
 - b. Pull driveline apart into two sections as shown in Figure 1-9. Attach the outer driveline universal joint to the tractor PTO shaft and inner driveline universal joint to the cutter gearbox shaft. Pull on each driveline section to be sure the universal joints are secured to the shafts.
 - c. Hold the driveline sections parallel to each other to determine if they are too long. The inner and outer shields on each section should end approximately 1" short of reaching the universal joint shield on the adjacent section (see "B" dimension). If they are too long, measure 1" ("B" dimension) back from the universal joint shield and make a mark at this location on the inner and outer driveline shields.
 - d. Cut off the inner shield at the mark ("X" dimension). Cut the same amount off the inner shaft ("X1" dimension). Repeat cut off procedure ("Y" & "Y1" dimensions) to the outer driveline half.
 - e. Remove all burrs and cuttings.
 - f. Apply multi-purpose grease to the inside of the outer shaft and reassemble the driveline.
 - g. Attach inner driveline yoke end to the cutter gearbox input shaft.
 - h. Attach outer driveline yoke end to the tractor's PTO shaft.



Driveline Shortening
Figure 1-9

4. The driveline should now be moved back and forth to insure that both ends are secured to the tractor and cutter PTO shafts. Reattach any end that is loose.

IMPORTANT: A small chain is supplied with the driveline. This chain must be attached to the inner driveline shield and to the cutter to restrict shield rotation.

5. Hook driveline safety chain in the hole in the inner driveline guard. Attach the other end to the cutter's main frame.
6. Start tractor and raise cutter just enough to remove blocks used to support the deck in step 3a.
7. Slowly engage the tractor's hydraulic 3-point to lower the cutter. Check for sufficient drawbar clearance. Move drawbar ahead, aside or remove if required.

Hydraulic Hook-Up



CAUTION!

Do not over speed PTO. The cutter can be damage when operated above its rated PTO RPM.

IMPORTANT: Do not engage tractor PTO until PTO driveline is fully connected and hydraulic fluid has been added to the reservoir.

1. If the cutter is equipped with a hydraulic cylinder for height control, locate the hose from the cylinder, and plug it into one of your tractor's hydraulic outlets. This is a one way cylinder, and as such, you only have one hydraulic hose operation. You will now be able to operate this cylinder from your tractor's hydraulic lever.
2. The offset hydraulic cylinder is a two way cylinder, and as such, will have two hoses. Plug each hose into a set of outlets. You now can offset your cutter left or right by using your tractor's hydraulic lever.

Un-Hooking from the Tractor

IMPORTANT: Always engage parking brake, shut tractor engine off and remove switch key before dismantling from tractor.

1. Park cutter on a level solid hard surface. Place tractor gear selector in park and set park brake.
2. Engage parking brake, shut tractor engine off and remove switch key before dismantling from tractor.
3. Lower deck to level ground or onto blocks supporting the deck just above ground level.
4. Disconnect hydraulic hose from tractor duplex outlet.
5. Disconnect any safety chains that may be connected to the tractor. (i.e. driveline safety chain and check chains)
6. Disconnect driveline from tractor PTO shaft.
7. Unhitch cutter from tractor 3-point arms and center link if center link is used.

Section 2: Adjustments

Leveling Procedure

There are three primary adjustments that should be made prior to actual field operations:

- Deck level from left to right
- Tractor lower link height
- Tailwheel height

Proper adjustment of each of these items will provide for higher efficiency, improved cutting performance and longer blade life. The following tools will be needed:

- Pliable tape measure
- Spirit or carpenter's level
- Open end or hex end wrench or socket set
- Protective gloves

Having completed the “**Tractor Hook-up**”, locate the tractor on a flat, level surface.

- Use the tractor's hydraulic 3-point control to lower the cutter until the front of the skid shoes barely touch the ground.
- Place a spirit level or other suitable leveling device left to right on the front of the cutter deck. Adjust either one or both of the tractor's lower link height adjustments to level the deck from left to right. Some tractors have only a single adjusting crank.
- Similarly, place a level front to rear on either of the main deck channels. Lower or raise tailwheel to level the cutter deck from front to rear.

DANGER!

Engage parking brake, disengage PTO, shut off tractor and remove key before proceeding. Ensure that all moving parts have come to a complete stop before dismounting from the tractor.

CAUTION!

Wear a pair of gloves when performing this operation. Go to the back of the cutter and carefully rotate one dishpan and attached two blades to the position shown in Figure 2-1. Avoid direct contact with the cutting edge of the blade.

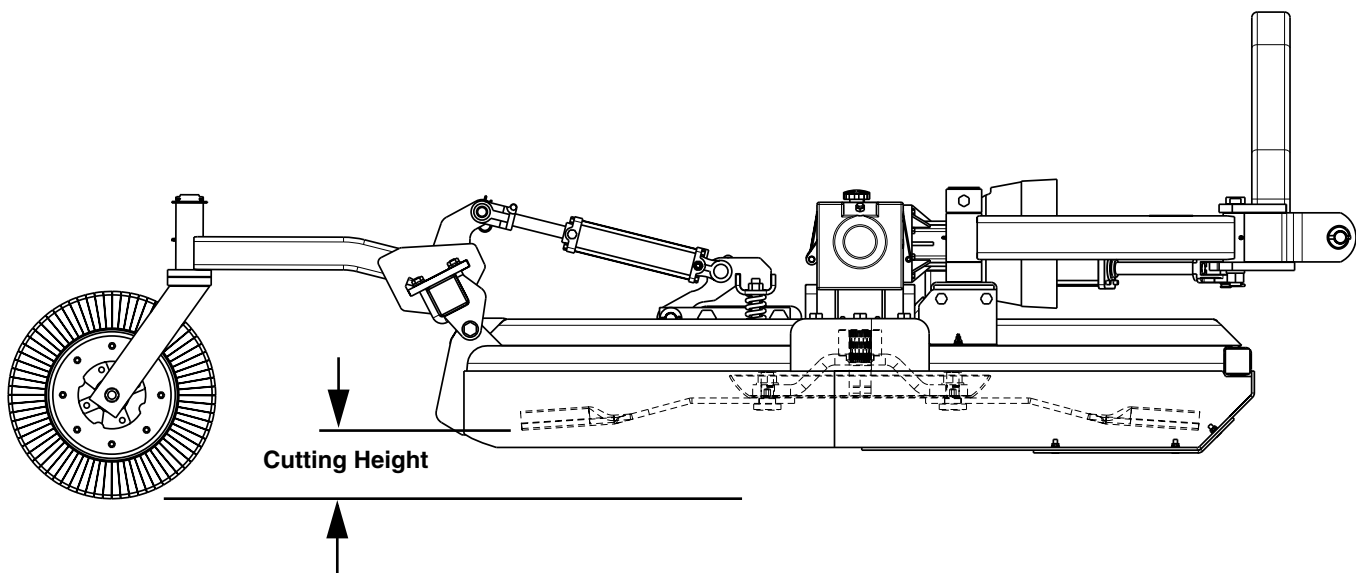
Minimum Cutting Height

Refer to Figure 2-1

Measure the distance from the end (cutting tip) of the blade to the ground surface. This distance is the minimum cutting height.

Cutter Height Adjustment

The unit is equipped with a ratchet jack or hydraulic cylinder for cutting height adjustment. The hydraulic selection includes stroke control spacers to set cutting height. Stroke control spacers consist of cast steel halves and a spring clip. To adjust height, simply extend the hydraulic cylinder with the tractor hydraulics and remove or replace the stroke control spacers for the desired height. Each spacer is 1". Retract the hydraulic cylinder. Store stroke control spacers on hydraulic hose near hydraulic cylinder.



Cutting Height
Figure 2-1

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Section 3: Operating Instructions

Operating Check List

It is absolutely essential that no one operates the Rotary Cutter without first having read, fully understood and become totally familiar with the Operator’s Manual. Make sure the operator has paid particular attention to:

- **Important Safety Information**, pages 1 to 7
- **Section 1: Assembly and Set-Up**, page 9
- **Section 2: Adjustments**, page 14
- **Section 3: Operating Instructions**, page 15
- **Section 4: Maintenance and Lubrication**, page 18

In addition to design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training involved in the operation, transport, maintenance and storage of equipment. Before beginning to cut, the following inspection should be performed.

Operating Checklist		
	Check	Reference
<input type="checkbox"/>	“Important Safety Information” in this Manual.	page 1 - 7
<input type="checkbox"/>	Be certain all guards and shields are in place.	Section 1
<input type="checkbox"/>	Check oil level in gearboxes.	Section 4 Page 21
<input type="checkbox"/>	Check that all plugs in gearbox have been replaced properly.	Section 4 Page 21
<input type="checkbox"/>	Lubricate the cutter as needed. Refer to “Maintenance and Lubrication”.	Section 4 Page 21
<input type="checkbox"/>	Be sure nuts and bolts are tight.	Section 8

Make the following inspections after hooking-up to the cutter. See Tractor Hook-Up instructions beginning on page 10. Make certain the PTO is disengaged and completely stopped before continuing.

4. Inspect tractor safety equipment to make sure it is in good working condition.
5. Carefully raise and lower the implement to ensure that the drawbar, tires, and other equipment on the tractor do not contact the frame or PTO driveline.
6. Check all hoses and wires to be sure that they will not contact PTO driveline. Check PTO guards to make certain they are in good condition and in place.
7. Inspect Hydraulic hoses for wear, damage and hydraulic leaks. See “Avoid High Pressure Fluids Hazard” on page 3. Replace damaged and worn hoses with genuine Land Pride parts.

8. With the PTO disengaged and completely stopped, check cutting blades for sharpness.
9. (Lift-Type Cutter) Adjust tractor lower 3-point arms such that the PTO driveline is approximately level.
10. Set tractor throttle to idle or slightly above idle and slowly engage PTO. Initial start-up vibration is normal and should stop after a few revolutions. Stop PTO rotation if vibration continues. Wait for the PTO to come to a complete stop and then dismount from the tractor to check for probable causes.
11. Once the cutter is running smoothly, increase tractor PTO speed to the rated PTO speed. Stop PTO rotation immediately if vibration occurs and wait for PTO to come to a complete stop and then dismount from the tractor to check for probable causes.

IMPORTANT: Do not exceed rated PTO speed of the cutter. Excessive engine speed will cause damage to the power train components.

Transporting



CAUTION!

When traveling on public roads at night or during the day, use accessory lights and devices for adequate warning to operators of other vehicles. Comply with all federal, state and local laws

IMPORTANT: Always disengage the tractor’s PTO before raising the cutter to transport position.

1. When raising the cutter to the transport position be sure that driveline does not contact tractor or cutter.
2. Be sure to reduce tractor ground speed when turning; and leave enough clearance so the cutter does not contact obstacles such as buildings, trees or fences.
3. Limit transport speed to 20 mph. Transport only with a tractor of sufficient size and horsepower. When traveling on roadways, transport in such a way that faster moving vehicles may pass you safely.
4. When traveling over rough or hilly terrain, shift tractor to a lower gear.

Offset Function

The main feature of your RCS35 Series Rotary Cutter is the hydraulic offset design. Being able to offset the cutter on the go increases your cutting efficiencies. Being able to maneuver the cutter versus steering around obstacles greatly increases your productivity. Easily operated by your tractor’s hydraulic lever, offsetting the cutter is at your fingertips. See “Hydraulic Hook-Up” on page 13.

Section 3: Operating Instructions

Cutting Instructions

DANGER!

The use of front & rear safety guards is strongly recommended to prevent injury or death caused by thrown objects! Gearbox shields must be secured in place when operating to avoid injury or death from entanglement in rotating drivelines.

DANGER!

Rotary Cutters have the ability to discharge objects at high speeds. Therefore, the use of front & rear safety guards is strongly recommended when cutting along highways or in an area where people may be present!

CAUTION!

Damage may occur if exceeding the rated cutting capacity of the cutter!

CAUTION!

Do not over speed PTO or machine damage may result. The 8' model in this series is available in 540 RPM. The 10' model in this series is available in 540 RPM or 1000 RPM. Know what your tractor requirements are.

WARNING!

The RCS35 series cutter is designed to cut grass and brush up to 1" in diameter. Using his cutter for any other type of work can damage the drive components, deck and support frame.

DANGER!

Do not use deck as a fan. Cutting blades are not properly designed or guarded for this use. Using the deck as a fan can result in injury and/or death.

DANGER!

Do not operate and/or travel across steep inclines where a tractor can roll-over resulting in serious injury or death. Consult your tractor's manual for acceptable inclines the tractor is capable of traveling across.

IMPORTANT: Avoid catching the hydraulic hoses on brush, post, stumps, and other protrusions that could damage and/or break them.

NOTE: Your cutter is equipped with free swinging cutting blades to reduce shock loads to the cutter if striking obstacles.

1. Thoroughly inspect the area to be cut for debris and unforeseen objects. Mark any potential hazards.
2. Start the machine slowly allowing the cutter blades to become aligned properly before going to full power.
3. It is important to maintain correct RPM PTO speed. Loss of PTO speed will allow the blades to hinge back and result in ragged, uneven cutting.
4. Never run fast enough to overload the tractor or cutter. Ground speed depends on two things:
 - The density of the material being cut.
 - Size of the tractor operating the cutter.
5. This cutter was designed to cut grass and medium brush in right-of-ways, pastures and for shredding row crop residues.

Crossing Steep Ditches & Banks

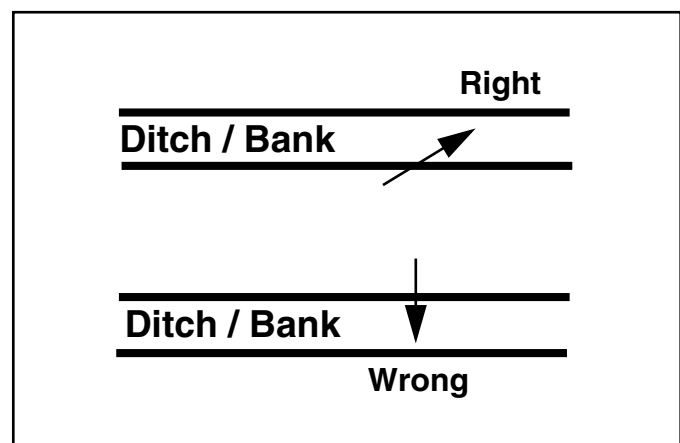
Refer to Figure 3-1:

WARNING!

Damage to the tractor's PTO components and/or driveline components can cause the driveline to come loose and cause bodily injury to the operator and others.

IMPORTANT: Always cross steep ditches and banks at a diagonal. Never cross straight across and/or never back into a steep ditch or bank.

Cutting over ditches and backing up hills can tilt the cutter's back side up excessively resulting in the driveline "Bottoming Out" and causing serious damage to the tractor PTO components, cutter gearbox and driveline. Bottoming out is when the driveline shaft has shorten to the point it is pressing against the gearbox and tractor PTO shafts. Do not operate the cutter at an angle exceeding 25 degrees up or down or at any angle that will force the driveline to bind and/or hit the tractor drawbar.



Crossing Steep Ditches and Banks
Figure 3-1

Section 3: Operating Instructions

General Operating Instructions

Now that you have familiarized yourself with the Operator's Manual, completed the Operator's Checklist, properly attached your Cutter to your tractor, made the right leveling adjustments, and preset your cutting height, you're almost ready to begin using your Land Pride Side Shift Cutter.

It's now time to do a running operational safety check. If at any time during this safety check you detect a malfunction in either the cutter or tractor, shut the tractor off immediately, remove the key, and make necessary repairs or adjustments before continuing on. With the tractor's park brake engaged, the tractor PTO disengaged, and the cutter resting on the ground, start the tractor and back the tractor throttle off until the engine is at low idle.

With the tractor's rear hydraulic lift control lever, raise the cutter to transport position making sure that the driveline is not in a bind and does not come in contact with the cutter frame. Lower the cutter to the ground and, with the tractor still at low idle, engage the PTO. If everything is running smoothly at this point increase the engine rpm until the tractor's engine reaches full PTO operating speed which will be either 540 or 1000 rpm.

Slowly raise the cutter to transport height to make sure the driveline does not bind or chatter. Return the engine to low idle, disengage the PTO, and position the adjustable stops on the tractor's hydraulic lift lever so the cutter can be consistently returned to the same cutting and transport height.

You should now be ready to move to the cutting site to begin mowing. You should have inspected and only be cutting in an area you are familiar with which is free of debris and unseen objects. Never assume an area is clear. Extremely tall grass should be cut twice to detect potential hazards. In the event you do strike an object, stop the tractor and cutter immediately to inspect the cutter and make any necessary repairs before resuming operation. It pays to inspect a new area and to develop a plan before you cut.

Normal mowing speed will be between 2-5 mph and you will need to maintain 540 or 1000 rpm PTO speed to produce a clean cut. Make a tractor gear and range selection that will maintain this combination. Generally, the quality of cut will be better at lower ground speeds and cutting denser ground cover will create the need to slow down.

In certain conditions tractor tires will roll grasses down, resulting in an uneven cutting height when the grass fails to rebound before being cut. When this happens you may need to reverse the cutting direction and double cut to achieve the desired finish. You will want to avoid very low cutting heights especially on extremely uneven terrain. Always cut downward on slopes and avoid crossing the face of steep slopes. Avoid sharp drops and cross diagonally through dips to prevent hanging up the tractor

and cutter. Slow down in turns and avoid sharp turns if at all possible. Remember to look back often.

Now you're prepared and well briefed so lets begin cutting. Reduce the tractor's engine rpm, lower the cutter to the ground, engage the PTO, raise the engine rpm to the appropriate PTO speed, and begin mowing. As you travel forward, use your auxiliary hydraulic control lever to shift your cutter from side to side so you can develop a feeling for side shift response time. Avoid making side shifts when not in forward motion as this is hard on the cutter and tractor.

When you can't make a wide turn and you need to reverse direction, you will need to lift the cutter into transport position to make a tight turn. Try increasing or decreasing ground speed to determine the effect on quality of cut. With a little practice you will be pleased with what you and your Land Pride Side Shift Cutter can do.

When you are done mowing, need to take a break, or just need to make a few adjustments to the cutter, remember to always do the following: Reduce the tractor's engine rpm, disengage the PTO, stop on level ground, set the park brake, turn off the engine, and remove the key. If your tractor does not have a "live PTO" and you are trying to stop, the tractor can be pushed forward by the momentum of the cutter's rotating blades.

Section 4: Maintenance and Lubrication

Maintenance

Proper servicing and adjustment is the key to the long life of any implement. With careful and systematic inspection, you can avoid costly maintenance, time and repair.

After using your cutter for several hours, check all bolts to be sure they are tight.

Replace any worn, damaged or illegible safety labels by obtaining new labels from your Land Pride Dealer.

! DANGER!

Always disconnect main driveline from tractor PTO before servicing the underside of the cutter deck. Cutter can be engaged if tractor is started resulting in damage to the cutter, bodily injury and/or death.

! WARNING!

Always secure cutter deck in the up position with solid supports before servicing the underside of the cutter. Never work under equipment supported by hydraulics. Hydraulics can drop equipment if controls are actuated or if hydraulic lines burst. Either situation can drop the cutter instantly even when power to the hydraulics is shut off.

Service Cutting Blades

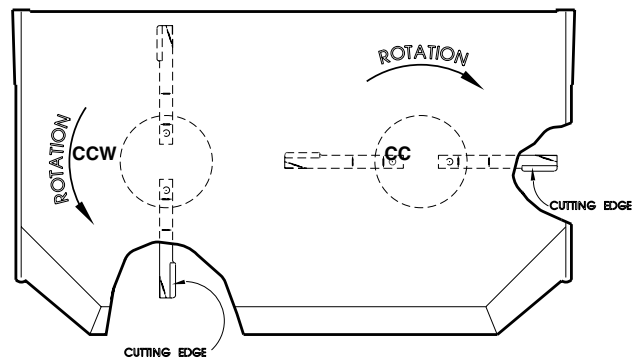
IMPORTANT: Blades must be ordered and replaced in pairs. Order only genuine Land Pride blades. Land Pride blades are made of special heat treated alloy steel. Substitute blades may not meet Land Pride's specifications and may be dangerous to operate.

6. Always disconnect main driveline from tractor PTO and secure cutter deck in the up position with solid supports before servicing the underside of the cutter.
7. Always inspect cutting blades before each use. Make certain they are properly installed and are in good working condition. Replace any blade that is damaged, worn, bent, or excessively nicked. Small nicks can be ground out when sharpening.
8. Both blades should be sharpened at the same angle as the original cutting edge and must be replaced or re-ground at the same time to maintain proper balance in the cutting unit. The following precautions should be taken when sharpening the blades:
 - a. Do not remove more material than necessary.
 - b. Do not heat and pound out a cutting edge.
 - c. Do not grind blades to a razor edge. Leave a blunt cutting edge approximately 1/16" thick.
 - d. Always grind the cutting edge so that the end of the blade remains square to the cutting edge and not rounded.
 - e. Do not sharpen the back side of the blade.

- f. Both blades should weigh the same after sharpening with not more than 1 oz. difference.

IMPORTANT: Unbalanced blades will cause excessive vibration which can damage gearbox bearings and create structural cracks in cutter housing.

9. Make certain when installing cutter blades that the blades on one spindle is positioned 90 degrees to the blades on the other spindle as shown in Figure 4-1.
10. Examine blade bolts for excessive wear and replace if necessary. To replace blade bolts:
 - a. Order Land Pride blade bolt part #802-277C and lock nut #803-170C.
 - b. Refer to Figure 4-1. Carefully check the cutting edges of the blades in relation to the blade carrier rotation to ensure correct blade placement.
 - c. Torque blade lock nut to 450 ft. pounds. An extended cheater bar may be required.



REAR OF CUTTER
Blade Positioning and Rotational Directional
Figure 4-1

Land Pride Cutter Blade Parts	
Part No.	Part Description
820-195C	RRC3596 CUTTER BLADE 1/2 x 4 x 20 CCW
820-196C	RRC3596 CUTTER BLADE 1/2 x 4 x 20 CW
820-137C	RRC3510 CUTTER BLADE 1/2 x 4 x 25 CCW
820-112C	RRC3510 CUTTER BLADE 1/2 x 4 x 25 CW
802-277C	BLADE BOLT 1 1/8-12 x 3 7/16 WITH KEY
803-170C	NUT HEX TOP LOCK 1 1/8-12 PLATE
804-147C	WASHER FLAT 1 HARD ASTM F436 PN

Land Pride Optional Low Lift Cutter Blades	
Part No.	Part Description
820-210C	RRC3596 BLADE 1/2X4X20.5 LL CCW
820-211C	RRC3596 BLADE 1/2X4X20.5 LL CW
820-193C	RRC3510 BLADE 1/2X4X25 LL CCW
820-209C	RRC3510 BLADE 1/2X4X25 LL CW

Section 4: Maintenance and Lubrication

Driveline Clutch

Cutter drive components are protected from shock loads by a slip-clutch. The clutch must be capable of slippage during operation to protect the gearbox, driveline and other drivetrain parts.

Prior to initial operation and after long periods of inactivity, the clutch should be "run-in" to remove any oxidation that may have accumulated on the friction surfaces.

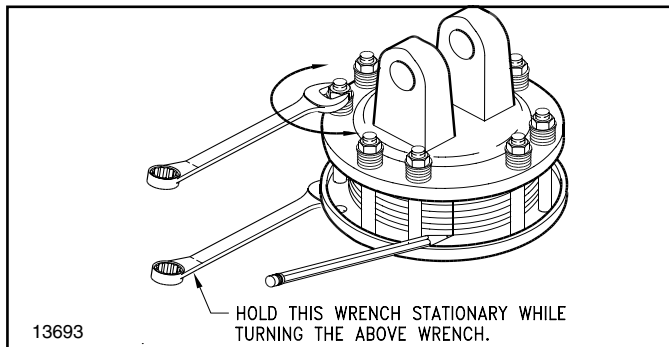
CAUTION!

Engage parking brake, disengage PTO, shut off tractor, and remove key before making any of the following adjustments.

Clutch Run-In

Refer to Figure 4-2:

- Using a pencil or other marker, scribe a line across the exposed edges of the clutch plates and friction discs.



**Clutch
Figure 4-2**

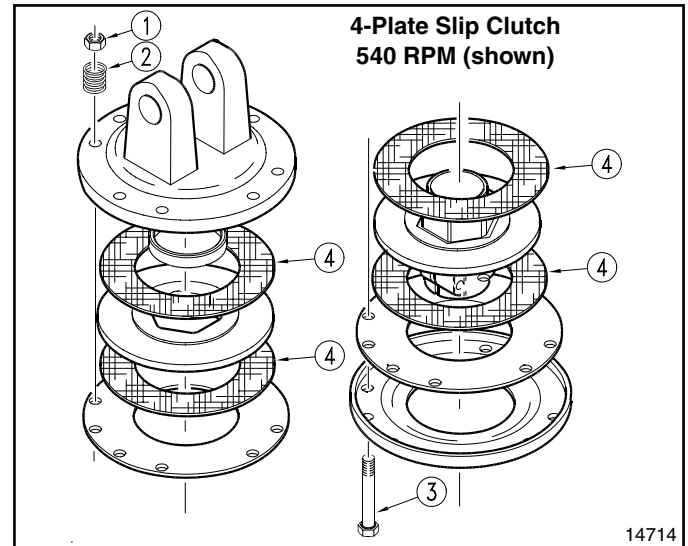
- Carefully loosen each of the 8 spring retainer nuts on the clutch housing a total of EXACTLY 2 revolutions. It will be necessary to hold the hex end of the retainer bolt in order to count the exact number of revolutions.
- Start the tractor and engage the PTO drive for 2-3 seconds to permit slippage of the clutch surfaces. Disengage the PTO, then re-engage a second time for 2-3 seconds. Disengage the PTO, shut off tractor and remove key. Wait for all components to stop before dismounting from tractor.
- Inspect the clutch and ensure that the scribed markings made on the clutch plates have changed position. If any two marks on a friction disc and plate are still aligned, such indicates that slippage has not occurred and the clutch must be disassembled to separate the friction discs, see "Clutch Assembly and Disassembly" below.
- Tighten each of the 8 spring retainer nuts on the clutch housing EXACTLY 2 revolutions to restore the original clutch setting pressure.
- The clutch should be checked during the first hour of cutting and periodically each week. An additional set of scribe marks can be added to check for slippage. See "Clutch Assembly and Disassembly" below to adjust for proper spring length.

Clutch Assembly and Disassembly

Refer to Figure 4-3:

If the clutch run-in procedure, see "Clutch Run-In" above, indicated that one or more friction discs did not slip, the clutch must be disassembled to separate the friction discs.

Disassembly of the clutch is simply a matter of first removing the spring retainer nuts (#1), springs (#2) and bolts (#3) from the assembly. Each friction disc (#4) must then be separated from the metal surface adjacent to it. Inspect all parts for excessive wear and condition. Clean all parts that do not require replacement.

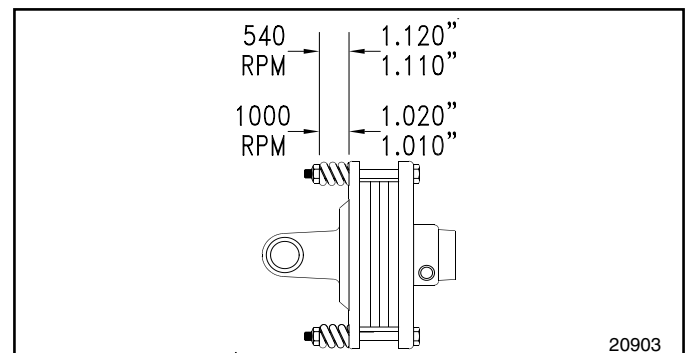


**Clutch Disassembly
Figure 4-3**

The original friction disc thickness is 1/8" (3.2mm) and should be replaced if the thickness falls below 3/64" (1.1mm). If the clutches have been slipped to the point of "smoking", the friction discs may be damaged and should be replaced. Heat build-up may also affect the yoke joints.

Refer to Figure 4-4:

Install new friction discs if needed and reassemble all components in proper order. Progressively tighten each spring retainer bolt until the spring length is between 1.120 to 1.110 inches for 540 RPM and 1.020 to 1.010 inches for 1000 RPM.



**Clutch Adjustment
Figure 4-4**

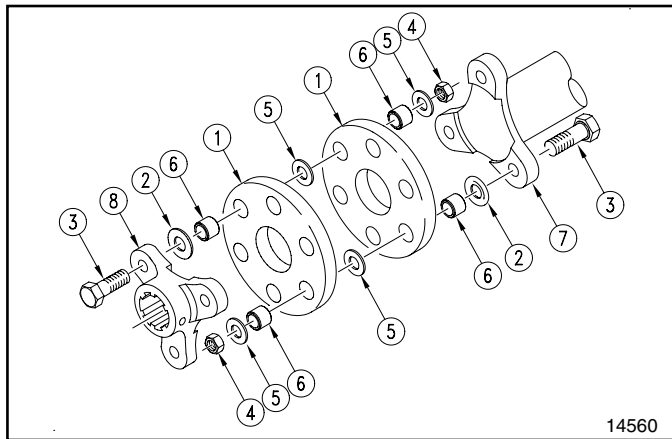
Section 4: Maintenance and Lubrication

Flex Couplers

Refer to Figure 4-5:

Replace two rubber discs (#1) (Land Pride Part No. 1785273) as follows: Refer to Land Pride's Parts Manual 312-708P if additional repair parts are required.

1. Insert three bolts (#3) through the holes in flange weldment (#7).
2. Place beaded washers (#2) over the three bolts with bead facing rubber disc (#1).
3. Place bushings (#6), rubber disc (#1), washers (#5), 2nd rubber disc (#1), 2nd bushing (#6) and 2nd washer (#5) over the three bolts as shown.
4. Secure with nuts (#4). Do not tighten.
5. Insert three bolts (#3) through the holes in flanged hub (#8).
6. Repeat steps 2 through 4.
7. Tighten nuts (#4) evenly with nuts torqued 35 to 40 ft-lb. Beaded washers (#2) should be imbedded halfway into the rubber disc.



Flex Couplers
Figure 4-5

Skid Shoe Maintenance



WARNING!
Excessive wear on skid shoes may cause inadequate operation of cutter and create a safety hazard!

There are two skid shoes mounted on the cutter sides. Check both skid shoes for wear and replace if necessary. Order only genuine Land Pride parts from your local Land Pride Dealer.

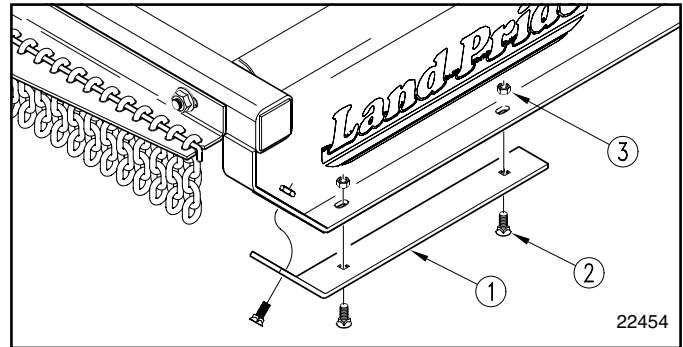
Refer to Figure 4-6:

1. Remove 3/8" hex whiz nuts (#3), 3/8" plow bolts (#2) and skid shoe (#1) as shown.
2. Plow bolts should be checked for wear and replaced if necessary.
3. Attach new skid shoe (#1) to cutter with existing 3/8" plow bolts (#2) and secure with 3/8" hex whiz nuts. Torque to 31 ft. lbs.

4. Repeat on opposite side.

Land Pride Skid Shoe Replacement Parts

Part No.	Part Description
312-602D	SKID SHOE
802-466C	PLOW 3/8" - 16 x 1 1/4" GR5
803-198C	NUT HEX WHIZ 3/8-16 PLT



Skid Shoe Replacement
Figure 4-6

Tractor Maintenance

One of the most important things you can do to prevent hydraulic system problems is to ensure that your tractor's reservoir remains free of dirt and contamination.

Use a clean cloth to wipe the hose ends before attaching them to your tractor. Replace the filter element for your tractor's hydraulic system at the prescribed intervals. These simple maintenances will go a long way to prevent the occurrence of cartridge valve and hydraulic cylinder problems on the Rotary Cutter.

Storage

At the end of the working season or when the cutter will not be used for a long period, it is good practice to clean off any dirt or grease that may have accumulated on the cutter and any of the moving parts.





1. Clean the cutter as necessary.
2. Check the blades for wear and replace if necessary, see "Service Cutting Blades", Page 18.
3. Inspect the cutter for loose, damaged or worn parts and adjust or replace as needed.
4. Lubricate as noted in "Lubrication", page 21.
5. Store the cutter inside if possible for longer cutter life.
6. Repaint parts where paint is worn or scratched to prevent rust. Ask your dealer for Aerosol Land Pride touch-up paint.

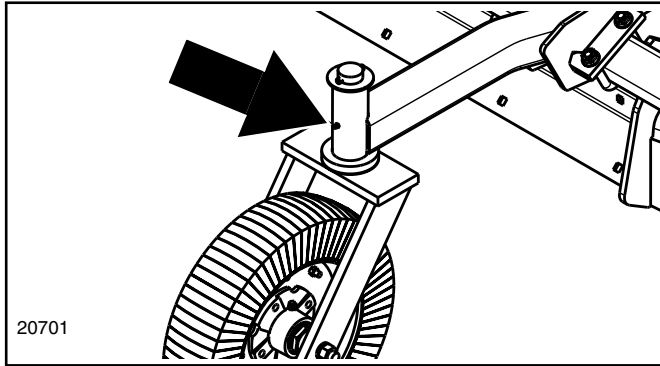
Land Pride Touch-up Paints

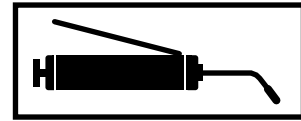

Part No.	Part Description
821-011C	PAINT LP BEIGE SPRAY CAN
821-002C	PAINT GP BLACK SPRAY CAN
821-054C	PAINT MEDIUM RED SPRAY CAN
821-058C	PAINT GREEN SPRAY CAN

Section 4: Maintenance and Lubrication

Lubrication

Lubrication Legend	 Multi-purpose spray lube	 Multi-purpose grease lube	 Multi-purpose oil lube	 Intervals in hours at which lubrication is required
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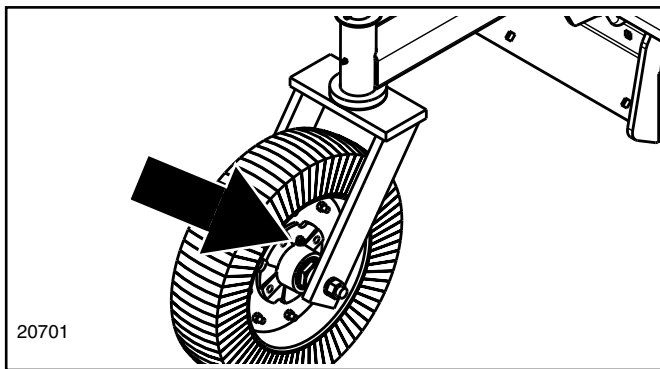
	
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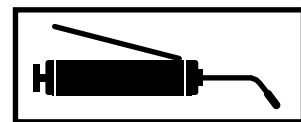
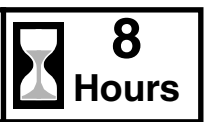
Tailwheel Spindle Tube

Lift-Type Cutter

Type of Lubrication: Grease

Quantity = 6 pumps



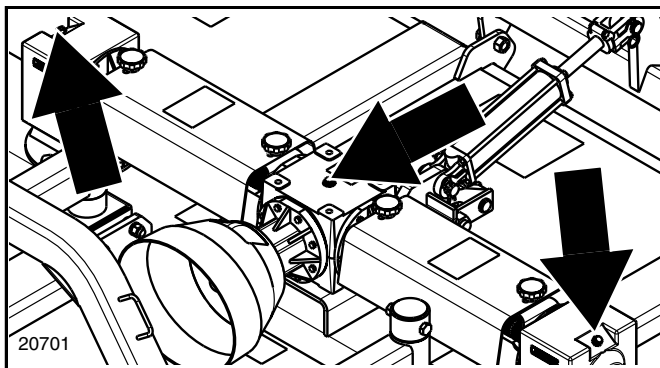
	
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Tailwheel Hub

The tailwheel hub is equipped with a relief hole located directly opposite the grease fitting. The relief hole releases pressure from inside the hub casting when it is greased. The hub should be greased until grease purges from the relief hole.

Type of Lubrication: Multi-purpose Grease

Quantity = Until grease purges from the relief hole



	
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Gearbox & T-Box

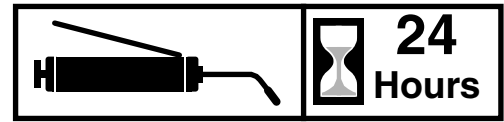
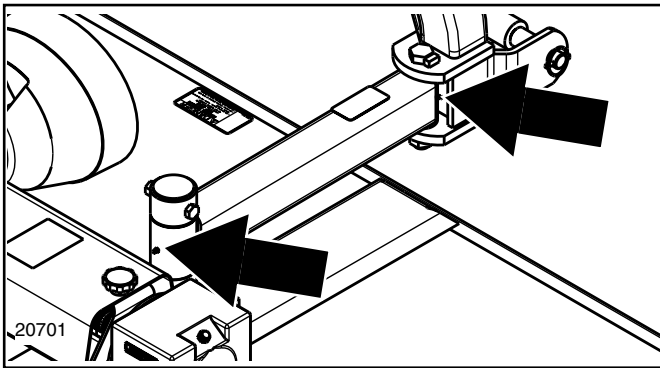
Check oil level in the gearbox by removing the side plug in the gearbox case. If the oil level is low, remove the top plug in the gearbox case and fill with EP90 oil until oil flows from the side port of gearbox case. Reinstall plugs and tighten.

NOTE: Do not overfill! Cutter should be level when checking oil.

Type of Lubrication: EP90 Oil

Quantity = Fill until oil flows from the side port of gearbox case.

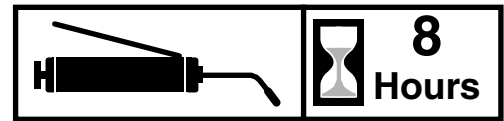
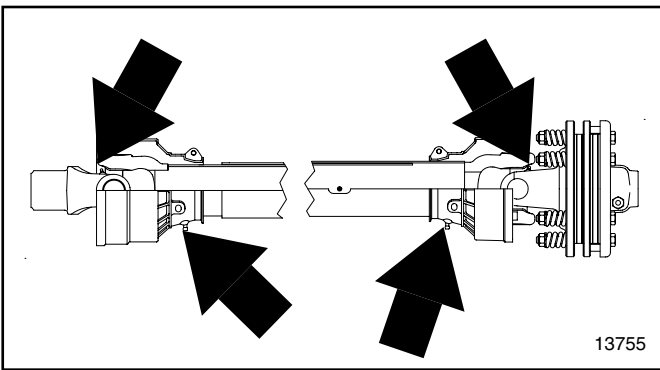
Section 4: Maintenance and Lubrication



Offset Arms

Type of Lubrication: Grease

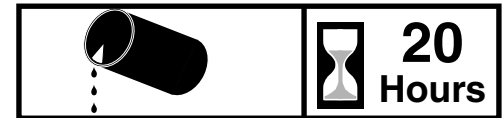
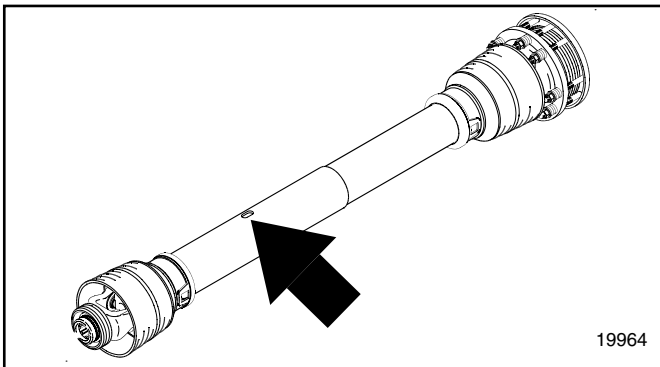
Quantity = 6 pumps



Driveline U-Joints

Type of Lubrication: Grease

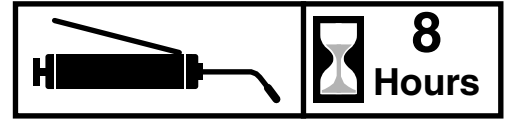
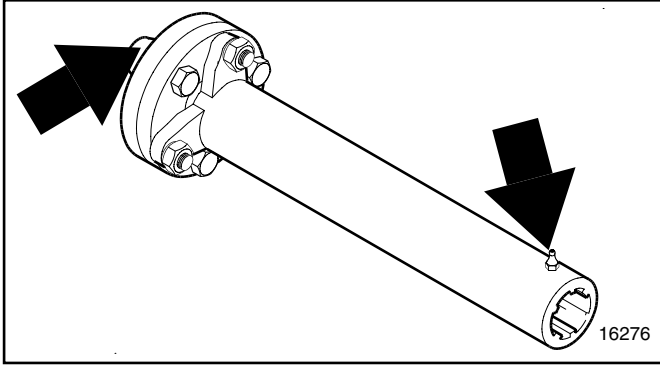
Quantity = 6 pumps



Driveline

Quantity = Clean & coat the inner tube of the driveline with a light film of grease and then reassemble.

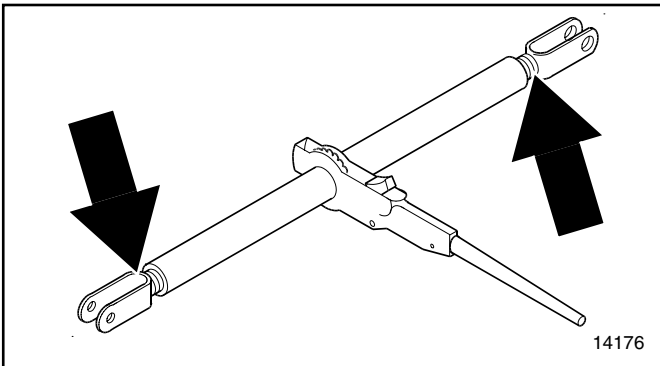
Section 4: Maintenance and Lubrication



Flex Coupler

Type of Lubrication: Grease

Quantity = As required



Ratchet Jack

(If equipped)

Type of Lubrication: Multi-Purpose

Quantity = As required



RCS(M)3596 & RCS(M)3510 Series

	RCS3596 (540 RPM) RCSM3596 (1000 RPM)	RCS3510 (540 RPM) RCSM3510 (1000 RPM)
Hitch	Category 1 & 2, Semi-Mount Quick Hitch adaptable	Category 2 & 3, Semi-Mount Quick-Hitch adaptable
Offset Capability	13"	
Working Width	8' 2"	10'
Overall Width	8' 6 1/2"	10' 5"
Overall Length	105"	110"
Machine Weight (With Front & Rear Chain Guards & Hydraulic Cylinders)	2062 lbs.	2400 lbs.
Blade Tip Speed	540 RPM 14,223 fpm 1000 RPM 14,442 fpm	540 RPM 17,291 fpm 1000 RPM 17,569 fpm
Deck Material Thickness	10 gauge	
Gearbox Rating H.P.	Center - 120 HP Outboard 100 HP	
Gearbox (Speed up beveled gears)	540 rpm or 1000 rpm PTO Driven Gearbox Cast Iron Housing, Beveled Gears	
H.P. Rating (PTO)	30 - 120	50 - 120
Cutting Height	2" - 12"	
Cutting Capacity	2"	
Safety Guards	Front & Rear Chain/ Front & Rear Rubber	
Skids	Replaceable	
Deck Height	9 5/8"	
Blades	1/2" x 4" Heat Treated Free-Swinging Suction Blades	
Stump Jumper	Round Pan 3/16"	
Driveline	Cat 4, w/Equal Angle U-Joint	Cat 4, w/Equal Angle U-Joint
Driveline Safety Protection	540 rpm - 4 plate slip-clutch 1000 rpm - 2 plate slip-clutch	
Tailwheel	2 ea. 6" X 9" X 21" Laminated	

Section 6: Features and Benefits
RCS(M)3596 & RCS(M)3510 Series

Features	Benefits
Surpassed rugged industry standards	All Land Pride Cutters have been designed and tested and meet rigorous voluntary testing procedures specified by ANSI.
Tractor HP range	30-120 HP.
540 or 1000 RPM	Fits wider variety of tractors.
5 Year limited gearbox warranty	Shows our confidence in the gearbox integrity.
3 Gearboxes	Allows equal torque to be spread to left and right gearbox.
Gearbox HP rating	120 Horsepower on splitter gearbox and 100 HP on wing gearboxes.
Splined rubber flex-couplers between center and outboard gearboxes	Protects the driveline and gearboxes from hard objects in the blade path.
Slip-clutch protection on main driveline	Slip-clutch is more convenient than shear-bolt, protects gearbox against sudden impact.
Semi-mount categories	Semi-mount allows for hydraulic offset. (Cat. 1 & 2 on 96" & Cat 2 & 3 on 10'-0")
Offset capability	Offset 13" right and left, hydraulically for time saving maneuverability.
Cutting Width	8'-2" on RCS3596 and 10'-0" on RCS3510.
10 Gauge deck, fully welded	Fully welded deck adds rigidity.
1/4" Thick sidewalls	Protects sidewalls from thrown objects.
Obstacle free underside	Underside of deck is free of reinforcement members which tend to allow material to lodge.
Round back design	Allows for cleaner and efficient discharge of material, helps eliminate damage to rear corners by not sticking out.
Chain or rubber guards	Reduces flying debris.
Full length skids with replaceable shoes	Adds reinforcement to side panels. Replaceable shoes allow for change before wearing through to weld-on piece.
Splined blade hub	Splined blade hub offers tight non-slipping attachment to output shaft.
3/16" Round stump jumper	Standard stump jumper aids in sliding over obstructions, which helps protect gearbox output shaft.
1/2" x 4" Blade bar	Heavy-duty blade bar adds support to stump jumper as well as gearbox output shaft.
1/2" x 4" Heat-treated blades	Heat-treated blades last longer than non heat-treated blades.
2" Diameter cutting capacity	Aids in cutting brush.
High Blade tip speed	96" deck width - (540 rpm = 14,223 fpm; 1000 rpm = 14,442 fpm) 10'-0" deck width (540 rpm = 17,291 fpm; 1000 rpm = 17,569 fpm) Allows clean cutting of material.
Laminated tires	Laminated tires can handle almost any condition and don't go flat.
Quick hitch adaptable	Both 96" and 10'-0" models are Quick Hitch Adaptable.







Section 7: Troubleshooting

Problem	Cause	Solution
Oil seal leaking	Gearbox overfilled	Drain to side plug hole
	Seals damaged	Replace seals
	Grass or wire wrapped on shaft in seal area	Check seal areas daily
Driveline yoke or cross failing	Shock load	Avoid hitting solid objects
	Needs lubrication	Lubricate every 8 hours
Driveline clutch slipping	Scalping the ground	Raise cutting height
	Cutting too fast	Reduce travel speed
	PTO being engaged too fast at high engine rpm	Slowly engage PTO at low engine rpm
	Cutting over solid objects	Avoid solid objects
Bent Driveline (NOTE: driveline should be repaired or replaced if bent)	Contacting frame	Reduce lift height in transport position
	Contacting drawbar	Reposition drawbar
	Bottoming out	Shorten driveline
Driveline telescoping tube failing	Shock load	Avoid hitting solid objects
Driveline telescoping tube wearing	Needs lubrication	Lubricate every 20 hours
Blades wearing excessively	Cutting on sandy ground	Raise cutting height
	Contacting ground frequently	Raise cutting height
Blades breaking	Hitting solid objects	Avoid hitting solid objects
	Blades hitting each other	Blade carriers need to be timed
Blades coming loose	Blades not tightened properly	Tighten blade hardware (refer to "Service Cutting Blades" on page 18)
	Improper deck attitude	Lower front of deck (see page 14)
Blade carrier becomes loose	Running loose in the past	Replace gearbox output shaft and blade carrier
	Blade carrier hardware not tight enough	Tighten to specified torque
Blade bolt holes worn	Blade hardware running loose	Replace blades and blade bolts if worn
Blade carrier bent	Hitting solid objects	Avoid hitting solid objects and replace blade carrier
Excessive side skid wear	Cutting height not level	Adjust cutter height
	Soil abrasive	Adjust cutter height
	Cutting too low	Adjust cutter height
Tailwheel support failing	Lowering too fast	Adjust rate of drop
	Hitting objects when turning	Reduce speed on turns

Section 7: Troubleshooting

Problem	Cause	Solution
Excessive vibration	Driveline bent	Replace driveline
	Blades loose	Tighten blade bolts
	Blade carrier bent	Replace blade carrier
	Blade broken	Replace blade
	Blade will not swing	Remove and inspect blade
	Blades have unequal weight	Replace both blades

Torque Values Chart for Common Bolt Sizes

Bolt Size (Inches) in-tpi ¹	Bolt Head Identification						Bolt Size (Metric) mm x	Bolt Head Identification					
													
	N ·	ft-lb ³	N · m	ft-lb	N · m	ft-lb		N · m	ft-lb	N · m	ft-lb	N · m	ft-lb
1/4" - 20	7.4	5.6	11	8	16	12	M 5 X 0.8	4	3	6	5	9	7
1/4" - 28	8.5	6	13	10	18	14	M 6 X 1	7	5	11	8	15	11
5/16" - 18	15	11	24	17	33	25	M 8 X 1.25	17	12	26	19	36	27
5/16" - 24	17	13	26	19	37	27	M 8 X 1	18	13	28	21	39	29
3/8" - 16	27	20	42	31	59	44	M10 X 1.5	33	24	52	39	72	53
3/8" - 24	31	22	47	35	67	49	M10 X 0.75	39	29	61	45	85	62
7/16" - 14	43	32	67	49	95	70	M12 X 1.75	58	42	91	67	125	93
7/16" - 20	49	36	75	55	105	78	M12 X 1.5	60	44	95	70	130	97
1/2" - 13	66	49	105	76	145	105	M12 X 1	90	66	105	77	145	105
1/2" - 20	75	55	115	85	165	120	M14 X 2	92	68	145	105	200	150
9/16" - 12	95	70	150	110	210	155	M14 X 1.5	99	73	155	115	215	160
9/16" - 18	105	79	165	120	235	170	M16 X 2	145	105	225	165	315	230
5/8" - 11	130	97	205	150	285	210	M16 X 1.5	155	115	240	180	335	245
5/8" - 18	150	110	230	170	325	240	M18 X 2.5	195	145	310	230	405	300
3/4" - 10	235	170	360	265	510	375	M18 X 1.5	220	165	350	260	485	355
3/4" - 16	260	190	405	295	570	420	M20 X 2.5	280	205	440	325	610	450
7/8" - 9	225	165	585	430	820	605	M20 X 1.5	310	230	650	480	900	665
7/8" - 14	250	185	640	475	905	670	M24 X 3	480	355	760	560	1050	780
1" - 8	340	250	875	645	1230	910	M24 X 2	525	390	830	610	1150	845
1" - 12	370	275	955	705	1350	995	M30 X 3.5	960	705	1510	1120	2100	1550
1-1/8" - 7	480	355	1080	795	1750	1290	M30 X 2	1060	785	1680	1240	2320	1710
1 1/8" - 12	540	395	1210	890	1960	1440	M36 X 3.5	1730	1270	2650	1950	3660	2700
1 1/4" - 7	680	500	1520	1120	2460	1820	M36 X 2	1880	1380	2960	2190	4100	3220
1 1/4" - 12	750	555	1680	1240	2730	2010	¹ in-tpi = nominal thread dia. in inches-threads per inch ² N · m = newton-meters ³ ft-lb= foot pounds ⁴ mm x pitch = nominal thread dia. in millimeters x thread pitch						
1 3/8" - 6	890	655	1990	1470	3230	2380							
1 3/8" - 12	1010	745	2270	1670	3680	2710							
1 1/2" - 6	1180	870	2640	1950	4290	3160							
1 1/2" - 12	1330	980	2970	2190	4820	3560							

Torque tolerance + 0%, -15% of torquing values. Unless otherwise specified use torque values listed above.

Section 8: Appendix


Warranty

Land Pride warrants to the original purchaser that this Land Pride product will be free from defects in material and workmanship beginning on the date of purchase by the end user according to the following schedule when used as intended and under normal service and conditions for personal use.

Overall Unit and Drivelines: One year Parts and Labor

Gearbox:

(S/N 375614+) Five years on housing, gears, and shaft.
Three years on seals and bearings.

(S/N 375613-) One year on housing, gears, and shaft.
Seals and bearings considered wear items.

Hydraulic Cylinder: One year Parts and Labor
Hoses and seals considered wear items

Blades, Tires, and Driveline Friction Discs: Considered wear items.

This Warranty is limited to the replacement of any defective part by Land Pride and the installation by the dealer of any such replacement part, and does not cover common wear items such as blades, belts, tines, etc. Land Pride reserves the right to inspect any equipment or parts which are claimed to have been defective in material or workmanship.

This Warranty does not apply to any part or product which in Land Pride's judgment shall have been misused or damaged by accident or lack of normal maintenance or care, or which has been repaired or altered in a way which adversely affects its performance or reliability, or which has been used for a purpose for which the product is not designed. Misuse also specifically includes failure to properly maintain oil levels, grease points, and driveline shafts.

Claims under this Warranty must be made to the dealer which originally sold the product and all warranty adjustments must be made through such dealer. Land Pride reserves the right to make changes in materials or design of the product at any time without notice.

This Warranty shall not be interpreted to render Land Pride liable for damages of any kind, direct, consequential, or contingent to property. Furthermore, Land Pride shall not be liable for damages resulting from any cause beyond its reasonable control. This Warranty does not extend to loss of crops, any expense or loss for labor, supplies, rental machinery or for any other reason.

No other warranty of any kind whatsoever, express or implied, is made with respect to this sale; and all implied warranties of merchantability and fitness for a particular purpose which exceed the obligations set forth in this written warranty are hereby disclaimed and excluded from this sale.

This Warranty is not valid unless registered with Land Pride within 30 days from the date of purchase by the end user.



Corporate Office: P.O. Box 5060
Salina, Kansas 67402-5060 USA
www.landpride.com
